

AN INQUIRY INTO THE TYPICAL AND ATYPICAL LANGUAGE DEVELOPMENT OF  
YOUNG TRANSNATIONAL MULTILINGUAL CHILDREN IN AN INTERNATIONAL  
SCHOOL

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## **Abstract**

This PhD thesis investigates some of the unique characteristics of young transnational multilingual children aged five to eleven from high-socioeconomic status families educated in an international school in Switzerland. Its purpose is to improve understanding of typical and atypical language development for this group. It draws on sociolinguistic research on language variation and exposure, and clinical linguistic research on developmental language disorder identification and cross-linguistic considerations. The specific aim of the pilot research study presented in this thesis is to measure and discuss seven multilingual children's verbal language abilities in each of their languages, and to measure their combined bilingual verbal abilities and multilingual verbal abilities. It is, therefore, influenced by discussion on language acquisition theories that relate to complex and dynamic systems, such as the Dynamic Model of Multilingualism. In addition, it also identifies any common characteristics, familial language practices or experiences of the pilot group of children. A methodological design is created that could be replicated in the future on a much larger scale as a means of confirming, extending or disputing the findings from the pilot group. This thesis's pilot research findings suggest that multilingual children from high-income families who attend international schools have significantly above average verbal language abilities when their verbal language abilities are evaluated as one total language system (multilingual ability), a finding that is in stark contrast to the 'average' results they receive when each language is evaluated on its own. The thesis concludes that research on multilingual children that does not take into account the variables unique to this group may fail to recognise important factors that can impact their language development.

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## LIST OF ABBREVIATIONS

BVA	Bilingual Verbal Ability
BVA1	Bilingual Verbal Ability 1 (L1+ L2)
BVA2	Bilingual Verbal Ability 2 (L1+ L3)
BVAT-NU	Bilingual Verbal Ability Test Normative Update
CALP	Cognitive Academic Language Proficiency
DLD	Developmental Language Disorder
DMM	Dynamic Model of Multilingualism
L1	First Language
L2	First Additional Language
L3	Second Additional Language
L4	Third Additional Language
MVA	Multilingual Verbal Ability
OVA	Overall Verbal Ability
SES	Socio-economic Status
SLI	Specific Language Impairment

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## INTRODUCTION

Over the past fifty years, there has been considerable growth in the number of international schools around the world. International education is not an entirely new phenomena, with the International School of Geneva in Switzerland opening in 1924 and the United Nations International School in New York, USA opening in 1947. Unlike local schools, private schools offering international education usually cater to the needs of international students whose families are, to a certain extent, nomadic because one or both parents are employed in international companies, the diplomatic service or international organisations that require them to relocate frequently. There are many types of international schools, from those which follow the International Baccalaureate Organisation (IB) educational programmes, to those which provide an American or British national education. There are also private schools which purport to offer an ‘international-style’ education by providing a unique curriculum that incorporates elements of national, and sometimes local, educational systems. There are also professional international educational organisations that oversee educational standards in some international schools, most prominently the IB and the Council of International Schools (CIS). Through its many schools across the world, the IB promotes an educational system which enables families to move frequently from one country to another with minimal disruption to their children’s schooling. As a result, these schools have significant populations of multilingual children with complex language and educational histories because of frequent interruptions in their schooling due to international or national familial relocation.

Even though international schools provide education for children aged 3-18, rarely do international school children complete their education in one school. Traditionally,

international schools have catered to the needs of American and British ‘expatriate’ communities, but as international companies have become more culturally diverse and their employees more internationally mobile, international schools have adapted to meet the international community’s changing needs. To add to this, some local families located near international schools opt to send their children to international schools instead of local schools for a variety of reasons. As a result, transient international multilingual children often have complex school and language histories, due to frequent school changes, which can also include changes in the language they learn in. In addition, due to their high socio-economic situations, many of these children are looked after by *au pairs* or professional nannies who may speak one of the child’s languages, albeit often as an additional language. Moreover, international school populations are often in a state of continuous flux as new families and children arrive and leave throughout the academic year, and new staff arrive and leave each year.

Romaine (1995) created six categories of bilingualism, which is a useful tool for classifying the various types of childhood bilingualism. When we use categories of bilingualism that are based on stable immigrant situations, we usually see bilingual children who are exposed to two languages: the language of home and the language of the community, the latter of which is usually the same as their school. Sometimes we see children who are exposed to three languages: two languages at home, and the language of the community and school. However, when we start to create categories of multilingualism for transient international multilingual children, we see the total number of languages acquired are often even higher. International students in this group are frequently developing simultaneous bi- or multilingualism as their home languages can differ from the language of school. Other international students in this group are developing sequential bi- or multilingualism as they

have developed one or two languages at home or at a previous school before starting to learn the new international school language(s). Some international students in this group are developing both simultaneous and sequential multilingualism as they have developed proficiency in many languages because of familial exposure and previous educational experiences in other languages. International students, therefore, can have complex language development histories and varying proficiency levels in multiple languages due to different school experiences, residencies, language development structures and home practices.

Although there has been academic research conducted into children educated at international schools, there is very little that focuses on the language development and experiences of multilingual children. There is academic research that looks at the correlation between language and academic development and transience and school changes, mostly among low socio-economic groups (Reynolds et al., 2009), but not with the globally-transient high socio-economic status (high-SES) international-school educated children. While international educational organisations like the IB have tried to create educational systems that enable multilingual children to move in and out of schools with minimal pedagogical, linguistic and climatic acclimatisation, international children still have acculturation factors to deal with that are unique to each school, in addition to new language acquisition challenges if the language of instruction is new, as well as the various emotional factors related to relocation.

In spite of the proliferation of international schools, there remains a lack of academic research on the language development of multilingual children in such environments, and a lack of research on the language development of high-SES multilingual children. While there is a plethora of research literature on typical and atypical language development of bilingual children (Hua & Wei, 2008; Gutiérrez-Clellen, 2004; Crago, et al., 2009), the research base on

multilingual children is still developing (Armon-Lotem et al., 2015; Hofer, 2015; Singleton & Aronin, 2018). When transnational multilingual children in international schools and from high-SES families appear to have difficulties with their languages, the extent to which any difficulties will be accurately evaluated and diagnosed depends on the experience and knowledge of their parents, educators and clinicians. Edwards (2005) and Müller and Ball (2005) point out that clinicians' understanding of what is typical and atypical language development in bilingual and multilingual individuals can vary considerably. An added complication is the similarities between characteristics of second language acquisition and language impairment (Paradis & Crago, 2000; Håkansson, 2001), and the fact that bi- and multilingual children's language development is often evaluated by comparing development in one of their languages with a monolingual child of the same age (Bialystok et al., 2009). As a result, it has been reported that there are 'rapidly increasing numbers of clinical referrals for children whose first language is not English' (Miccio & Scarpino, 2008, p. 417), with less-than-perfect language acquisition in multilingual children often being identified by clinicians as a disorder, when in fact the imperfect acquisition is actually typical for this group (Wei et al., 2005, p. 205). There has been and continues to be much research on bilingualism, but research on childhood multilingualism and the management of the three languages is still scarce (Marian et al., 2013, p. 83).

Transnational multilingual children educated in international schools are as often culturally diverse as their language and educational experiences. Often, these children have never lived in a country where any of their languages are spoken locally or nationally. Their language exposure is confined to the immediate and extended familial units, other ex-patriots, international school staff and their schoolmates. If we take English as an example, as this is the language of instruction at most international schools, the varieties of English a child

would be exposed to in any given day would typically include Australian English, Canadian English, American English and British English, as well as English as an international *lingua franca*. As a result, the question arises as to the appropriacy of assessment tools used to identify atypical language development.

The objective of this thesis is to describe and discuss the current research literature as it relates to highly-mobile multilingual children from high-SES backgrounds educated at international schools. In addition, a small pilot study that presents the verbal language abilities of a group of young transnational multilingual children is discussed, with particular attention paid to how their single language performance relates to a more holistic evaluation of their total multilingual language ability. The methodological perspective is influenced by recent discussion on language acquisition theories that relate to complex and dynamic systems, such as the Dynamic Model of Multilingualism (DMM). The main objective of the pilot research project is to create a methodological design that could be replicated in the future on a much larger scale as a means of confirming, extending or disputing the findings from the pilot group.

There are several limitations to this thesis that must be acknowledged. Firstly, the research literature is discussed as it relates to a European context; this is due to the fact that the subjects in the pilot study were being educated at the time at an international school in Switzerland. Secondly, while some research referenced in this thesis is published in languages other than English, the majority of research is derived from the English-language discourse. Finally, due to the complexity of the group being studied, the thesis pulls from a variety of fields in order to explore issues related to childhood multilingualism as it relates to the transnational multilingual children from high-SES families educated in an international

school who participated in the pilot study. The hope is that in doing this, the diversity and complexity of discussion mirrors the diversity and complexity of the experiences of the group of children under discussion.

## **CHAPTER 1: Overview of Individual Bilingual and Multilingual Discourse**

Chapter 1 begins with a brief history of individual bilingualism. Key terminology is discussed and defined, as well as the emerging discourse on how the acquisition of two languages is different from the acquisition of three or more. Following this, the political aspect of bi- and multilingualism is examined as it relates to an individual's desire to acquire languages as part of the development of his or her sociopolitical identity. Common perception of bi- and multilingualism are analysed in terms of their connection to contrasting theories on the degree to which multilingual language systems are interrelated. Moreover, research on complexity-theory as a means to understand multilingual language systems is reviewed. Finally, the concept of multi-competencies and the Dynamic Model of Multilingualism (DMM) are introduced, as is recent discourse that deals with the cognitive benefits of multilingualism at different stages of life. This chapter serves as the theoretical basis for Chapter 2, where research on bi- and multilingualism in children will be considered.

### **1.1 Brief History: From Bilingualism to Monolingualism to Multilingualism**

Multilingualism is not a new phenomenon, but in recent times it has become a focus of increased attention within the field of linguistics. During the medieval period in Europe, local languages and dialects coexisted with Latin and French; Latin was the language of science, religion and literature, and French was the language used in the civil service and courts (Cornips, 2018). The coexistence of bilingual ideology prevailed until the Enlightenment Period (1715–1789), which saw a greater emphasis on national identity, encouraged in the populus through the establishment of singular languages inextricably tied

to culture (Cornips, 2018, referring to the German Philosopher Johann Gottfried Herder). The interest in language and the promotion of the ideal monolingual ‘user’, i.e. the native speaker who speaks a standard form (as defined at the time) of a language, and the demotion of the multilingual or dialect user, who did not fit the singular (i.e. nationalist) mould (Singleton & Aronin, 2018) prevailed. Examples of European nation-building and its connection to language policies include Italy’s introduction of standardised Italian language upon the establishment of the Italian Republic in 1861, wherein other languages, such as Friulan and Sardinian (Cornips, 2018) were relegated to the status of dialects, and the near-eradication of the Breton language in France after the French Revolution (1789-1799) (Arnoff & Rees-Miller, 2001). As well as bilingualism being seen as anti-nationalistic, it was also claimed to affect man’s spiritual and intellectual growth (Laurie, 1890:15). Moving into the twentieth century, between 1920-1960, discussions on the negative effects of bilingualism were becoming widespread. It was proposed that bilingualism caused confusion (Saer, 1923), ‘mental retardation’ and cognitive deficiencies (Bayram, et al., 2018), and that the additional mental burden of bilingualism could even trigger schizophrenia (Wandruszka, 1979). The implementation of monolingual ideology is also seen in the Christian missionary residential schools established in Australia, Canada and USA, between 1880 and 1970, where monolingual English (and monolingual French in parts of Canada) was promoted and indigenous languages and bilingual practices were suppressed. Monolingualism was indeed believed to be the key to the cultural assimilation of indigenous children into ‘civilised’ society.

In the 1960s, there was a clear turn in the discourse against anti-bilingual practices following the publishing of Peal and Lambert’s 1962 article ‘The relation of bilingualism to intelligence’ and, for many, the discovery of Lev Vygotsky’s *Thought and Language*

(originally published in 1934 as *Myshlenie i Rech*, but translated into English in 1962).

Rather than reaffirming populist beliefs concerning cognitive disadvantages, they outlined cognitive *advantages* of bilingualism, which included greater mental flexibility, concept formation, and awareness of operations (Hofer, 2015, p. 6). Peal and Lambert's research, controversial at the time, showed bilingual individuals outperforming monolinguals in verbal and non-verbal intelligence tests, which sparked an interest in psycholinguistic study and the psychology of biculturalism and the bilingual identity (Singleton & Aronin, 2018). The reversal of connotation of 'bilingualism' from negative to the positive fuelled researchers on the systematic identification of the positive consequences of individual and societal bilingualism, as well as research into how individual bilingualism differs cognitively from monolingualism.

The emerging discourse anchored language research within social contexts, and presented the bilingual individual as someone who uses language to enhance communication and understanding, not as a person with underdeveloped language skills (Singleton & Aronin, 2018). Despite sixty years since this shift, the monolingual paradigm persists today, with native-speaking abilities still often seen as more prestigious (Singleton & Aronin, 2018) or the ultimate goal of 'foreign-language' learning. This attitude persists in education, where native speakers are often perceived to be 'better' at aiding learning of a target language than non-native speaking language teachers (see Phillipson, 2003).

Since the 1990s, there has been a significant increase in both the amount and impact of research into bilingualism (Bayram et al., 2018, see also Kroll & Bialystok's 2013 meta analysis), which has led to even more study into multilingualism. There have been serious amendments to well-established (and treasured) definitions of basic linguistic jargon; terms like 'language', 'mother tongue', 'dialect', and 'proficiency' have all been re-examined

through a new framework (Singleton & Aronin, 2018). Also, due to the increase in globalisation and advancements in technology, a new way of viewing multilingualism is emerging that not only distinguishes bilingualism from multilingualism, but also recognises multilingualism as complex, nuanced, and highly circumstantial, and something that must be studied holistically (Singleton & Aronin, 2018). Perhaps most impactful is that multilingualism is increasingly seen as a commodity, a skillset with economic value to society (Hofer, 2017).

## **1.2 Bilingualism and Multilingualism in the Field of Linguistics**

The field of linguistics offers several different approaches to the study of bilingualism and multilingualism. Due to the complexity of investigating individual childhood multilingualism and the many factors that influence acquisition in the early years, I am obliged to consider a wide variety of approaches to the concept of childhood multilingualism, its origins and its effects. While research on childhood multilingualism is mostly concerned with the study of how language is used by children within their sociological spheres and its effect on language acquisition, the neurological processes involved in language acquisition, comprehension and production are also key. Finally, how linguistic theories can be used to interpret clinical tests that establish linguistic competencies, as well as how an understanding of multilingual children's linguistic capacities is key to understanding the language system, as a whole system will also be explored. As a result, this thesis is underpinned by key discourse from sociolinguistics, psycholinguistics and clinical linguistics. It is, therefore, *transdisciplinary*, which necessitates that the manner in which terminology is used in the forthcoming chapters be clearly defined in advance; hence, it should be noted by the reader

that the use of terms are specific to this context and may differ from how they are utilised in specific fields.

### **1.3 Use of Terms ‘Bilingualism’ and ‘Multilingualism’**

Historically, the terms ‘multilingualism’ and ‘bilingualism’ have been defined inconsistently, but their use falls broadly into two categories. The first considers bilingualism to be a specific form of multilingualism (i.e. specifically two languages), wherein all bilinguals are, by definition, also multilingual, but not vice-versa (Franceschini, 2009; de Zarobe & de Zarobe, 2015; Goral & Conner, 2013; Higby et al., 2013; Hua & Wei, 2008; De Groot, 2011; Goral & Conner, 2013). The second approach to these terms distinguishes multilingualism from bilingualism, reserving the former to refer only to three or more languages, and hence the bilingual is not considered as multilingual (Kroll et al., 2013; Kemp, 2009, Baker, 2008; Cenoz & Gorter, 2005; Hufeisen & Lindeman, 1998; Malmkjær, 2010). To make matters even more complex, the term ‘bilingual’ is sometimes used when referring to the use of more than two languages (Cook & Basseti, 2011).

At first glance, the inconsistency may seem easily resolved by context, but in the case of complex meta-analysis, this lack of precision can lead to seriously misleading results. The variability of the use of these terms has been duly noted and criticised (Ritchie & Bhatia, 2013; Guerrero, 2010; Higby et al., 2013; Kemp, 2009). Romaine (1989) suggests that the general lack of agreement on these terms is due to the fact that each distinct field of linguistics tends to emphasise certain linguistic traits over others, and hence some do not need the same level of semantic exactitude other areas would require in certain contexts.

Several examples of the terminology conundrum and its effects emerge when we examine neurolinguistic research on bilingualism. Higby et al. (2013), for instance, point out in their summary of the neuro-linguistic discourse on language that whilst most of this research focuses on subjects' use of two languages (bilingualism), the participants may well include many individuals that can actually use more than two languages. The work of Lehtonen et al. (2012), and Parker Jones et al. (2012) is highlighted by Higby et al. (2013) as an example of research that uses the terms interchangeably, even within a single research study. In Lehtonen et al. (2012) and Parker Jones et al.'s (2011) research, even after identifying the bilingual (i.e. two-language) and multilingual (i.e. more than two-language) subjects, all results were compiled and in the discussion of their findings, only the term 'bilingual' is used, even when referring to multilingual performance (Higby et al. 2013, p. 69). One reason proposed for this lack of distinction between bilinguals (two languages) and multilinguals (more than two languages) is that multilingual variables and the multilingual language system are perceived as closely related to, and even indistinguishable from, bilingualism, so that a unique classification is unnecessary (De Groot, 2011). As De Groot explains:

[a] multilingual language system is potentially noisier than a bilingual language system, but the mental processes and mechanisms that handle this increased level of noise are presumably no different from those involved in dealing with the extra noise in a bilingual system as compared with a monolingual system.

(De Groot, 2011, p. 2)

The assumption that disregards the possibility that additional language competencies may serve as confounding variables can directly impact bilingual testing scenarios and even participant selection.

Singleton and Aronin (2018) describe some differences between bilingualism and multilingualism that make the latter group differ from the former. First, multilingualism is more complex than bilingualism because the addition of the third language ‘increases the number of active elements and possibilities, and augments the information, interactions and emergent qualities and variables to a much greater degree than two languages’ (Singleton & Aronin, 2018, p. xviii). Looking at bilingual switching compared to multilingual switching, Kroll et al. (2008) found that bilingual switching is asymmetric with a longer switch from L2 to L1, and Ansaldo et al. (2008), Festman (2012) and Sağın-Şimşek & Cedden (2012) found that multilinguals may have stronger executive control when compared to bilinguals. Interestingly, code-switching and mixing are seen to be more natural behaviours among multilinguals than bilinguals because multilinguals switch more to address gaps in their linguistic knowledge or because the language chosen at any given time is better for communication in a situation (Hoffman & Stavans, 2007). Discourse on the identification of the unique differences between bilinguals and multilinguals is ongoing (Hofer, 2015), but what is commonly argued is that as a bilingual changes into a multilingual, ‘quantitative and qualitative differences become deeper, to the extent that the nature of the emerging... phenomena changes’ (Aronin & Jessner, 2015, p. 277).

The term ‘super-bilingualism’ was created by Bialystok et al. (2009) as an alternative to trilingual or multilingual. The term came about from discussion of research that has identified cognitive advantages in trilinguals compared to bilinguals (see Kavé et al., 2008; Chertkow et al., 2010; Byers-Heinlein & Werker, 2009). Bialystok proposes the term ‘super-bilingualism’ as a way of referring to subjects who have competencies in more than two languages and experience cognitive advantages (which are hypothesised as causally related).

## 1.4 The Politics of Bi- and Multilingualism

Individual plurilingualism refers to an individual's capacity to use multiple languages for intercultural communication, and sometimes as a synonym for multilingual (McKay, 2012). The term 'plurilingualism' is said to have emerged from European reunification after the Second World War, and is the preferred term used by the European Union and the Council of Europe (see publications by Beacco, 2005; Coste et al., 2009 for Council of Europe). Beacco (2005) proposes that 'plurilingualism' is a new language ideology, born from a sociopolitical context where local and national borders and the monolingualism associated with these have been broken down to create a new focus on communication (Beacco, 2005). Flores (2013) suggests that 'plurilingualism' is a specifically neo-liberal term that describes a linguistic repertoire that is central to a new identity that finds a sense of belonging and place through linguistic diversity instead of national, monolingual identities.

Despite it being reported that most of the world's population is bi- or multilingual (Malmkjær, 2010; Brown & Miller, 2013), individualised monolingualism has been the desired norm in many Western countries (e.g. France, UK, USA, USSR). Political and nation unification through language policy has created linguistic, cultural and political conflict. Attitudes towards bi- and multilingualism can vary considerably; Malmkjær (2010) identifies four common perceptions. The first is the bilingual/multilingual as a *member* of a bilingual/multilingual area in regions or countries that have more than one official language, e.g. Switzerland, India. Second, is the bilingual/multilingual as an *immigrant*, and with that immigrant status can come social, economic and cultural attitudes. An example of this is given by Bak and Mehmedbegovic (2017) when referring to research conducted by the Institute of Education, London in 2009 which identified bilingual children hiding their

immigrant languages (Bak & Mehmedbegovic, 2017, p. 157). The third is the bilingual/multilingual as an *indigenous linguistic minority*. The use of the term ‘minority’ is now seen as contentious, especially due to indigenous languages being revitalized (e.g. Pūnana Leo Haiwainen language schools). The fourth is the bilingual/multilingual as *elite*, with the accumulation of majority languages seen as advantageous the context of globalisation. An example of this is discussed by (Yildiz, 2012, p. 2018), in the discussion of the popularity in Germany of some English-German bilingual schools, in contrast to public negativity towards Turkish-German schools.

It is clear that individual multilingualism, societal multilingualism and perceptions of multilingualism are a result of geographical and political change. Modernisation, urbanisation and globalisation are all gross factors that inform societal attitudes towards the relative value of multilingualism, but at an individual level, motivation, hostility and social pressure are just as relevant (Malmkjær, 2010).

### **1.5 Monolingual and Multilingual Paradigms**

As Yildiz (2012) points out, multilingualism can be viewed through two different lenses: a multilingual lens and a monolingual lens. The monolingual paradigm can also be referred to as the ‘monolingual habitus’ (Gogolin, 2002) or ‘monolingual orientation’ (Strobbe et al., 2017). The monolingual paradigm privileges one language, usually the ‘mother tongue’ (itself an imprecise, contentious term) over other languages by associating mother tongue competency not only with greater overall linguistic competence, but also personal identification, cultural connectivity, familial association and a sense of heritage (Yildiz, 2012). Monolingualism is seen as the primary marker with which

competency in other languages are compared and linguistic homogeneity or the ‘unmixed state’ is viewed as both normal and ideal (Yildiz, 2012; Piller, 2015). Multilingualism is seen as ‘parallel monolingualisms’ (*sic*) with cognitively siloed languages that jostle for status (Yildiz, 2012; Piller, 2015). Finally, the monolingual view of multilingualism conceptualises multilingualism as generic and non-contextual (Piller, 2015). Strobbe et al. (2017), for example, discuss teachers’ perceptions towards multilingualism in their students and how monolingual and multilingual mindsets are affected by personal background variables and the extent to which student populations in schools are linguistically diverse. The more linguistically and culturally diverse a student population is (more than 60% being non-monolingual), the fewer monolingual beliefs are held among the teachers (Strobbe et al., 2017, p. 95). Yildiz (2012) nudges the discourse further, urging us to acknowledge the inherent tensions between mono- and multilingual paradigms, and to consider multilingualism along holistic lines, wherein an individual’s languages form a dynamic system of multi-competencies, a critical point to which I shall later return.

### **1.6 Defining Bilingual and Multilingual: The Question of Competency**

Terms such as ‘bilingual’ and ‘multilingual’ logically triggers questions of proficiency, in particular regarding problematic notions of ‘minimum requirements’ for the judgement of relative skill levels. Butler and Hakuta (2004) suggest that the populist understanding of a bilingual is someone who has achieved equal mastery in two languages, a concept said to have originated in the 1930s with the American linguist Bloomfield (1933), who defined bilingualism as having ‘native-like’ control of two languages. During the 1950s and 1960s, the term ‘ambilingualism’ gained currency to describe someone who has equal

mastery in both languages in any context, a sort of linguistic ‘ambidexterity’ (Catford, 1964; Halliday et al., 1964). What is interesting is how true ambilingualism, referred to by Halliday et al. (1964) as an extremely rare phenomena, has become the popular understanding of what a perfect bilingualism is - an arguably unobtainable level for many bilingual and multilingual individuals. More recently, the term ‘balanced bilingualism’ has emerged to describe the equality of an individual’s language levels (Baker & Wright, 2017); the necessity for the adjective ‘balanced’ is indeed indicative of the fact that more nuanced concepts of multilingualism have now entered the discourse.

Due to the rarity of bilinguals who can be categorised as fitting the ‘maximal’ definition of truly ‘balanced bilingualism’, alternative definitions have been proposed. In 1953, Haugen suggested that an individual could be defined as bilingual if they were able to produce ‘complete and meaningful utterances’ in another language. Haugen’s liberal and looser definition of bilingualism, also referred to as ‘incipient bilingualism’ (Diebold, 1964) has been criticized as being unsatisfactory (Bhatia, 2012), and even trivial (Johnson, 2004) as it lacks precision. Johnson (2004) explains that by accepting Haugen’s ‘minimal’ definition, every second language learner, regardless of his or her competence in that language, could be classified as being bilingual; such a departure from the more general understanding of bilingualism considered too vague because it does not clearly acknowledge functional competencies that require levels of proficiency for communication (Johnson, 2004). In an attempt to finesse the definition of bilingualism, Valdés (2003) proposed a language proficiency continuum that places balanced bilingualism in the middle of the continuum. At either end, the two languages are placed, each end showing different proficiency levels in both languages: one end shows one language (Language A) being stronger than the other (Language B), and at the other end, this is reversed. The maximal/minimal definitions and the

bilingual language proficiency continuum are both attempts at defining bilingualism that recognise languages as discrete, but co-existing knowledge-sets, a view that is sometimes referred to as a 'monolingual' or 'fractional' approach to bilingualism (Baker & Wright, 2017).

The concept of bilingual dexterity can be further examined by evaluating language knowledge and use based on production and comprehension. Both an individual's ability to 'passively' understand a language (receptive) and his or her ability to 'actively' produce the language (expressive) are important to consider when overall language levels are being assessed. When bilinguals actively use both their languages, the term 'additive bilingualism' is used; conversely, when one language becomes more active or dominant, in effect replacing the other language, the term 'subtractive bilingualism' is used (Bhatia, 2014). Garcia (2009) uses the terms 'recursive' and 'dynamic bilingualism' when discussing additive and subtractive bilingualism to acknowledge the complexity within these two terms. Garcia (2009) uses the term 'recursive bilingualism' to describe the process of 'reacquiring' a language by language minority groups (Garcia, 2009, p. 24), and 'dynamic bilingualism' to refer to the acquisition of languages in order to be part of a multilingual community (Garcia, 2009, p. 26). What is clear is that language proficiencies in bilinguals are influenced by many factors, such as necessity, usage and contact with other speakers, as well as the complex geographical, socio-political and attitudinal factors that affect language development.

### **1.7 Fractional and Holistic View of Bilingualism and Multilingualism**

As mentioned above, in a simultaneous or sequential bilingual, equal mastery in both languages, or balanced bilingualism is indeed rare. The notion of whether each language is

developed to the same level of mastery requires a judgement that utilises agreed benchmarks. In the 1990s and 2000s (Cook, 1992, 2002; Grosjean, 1994), two contrasting views of bilingualism emerged. The fractional view that sees a bilingual individual's language system as two distinct monolingual systems nestled in one overall language system was contested by a 'holistic' view that seeks to understand a bilingual individual's languages as not distinct at all, but rather sees them as a unified linguistic system (Baker, 2011, p.9). Using a fractional view, a bilingual's skill level in each language can be compared to a monolingual's of the same language, but such a comparison creates a deficit view of bilingualism, as underdeveloped areas because the individual languages are *separately* compared to the *whole* of a monolingual individual's language system. The deficit view of bilingualism is common in countries where bilingualism is not seen as the norm, such as the USA and UK (Brutt-Griffler & Varghese, 2004), and it is from this fractional lens that the view that bilinguals usually have a language that is more proficient (or dominant) than the other emerged (Herdina & Jessner, 2002).

While the fractional view of bilingual proficiency is still prevalent in popular discourse (see Baker & Wright, 2017), over the last thirty years this has provoked fierce discussions that have helped progress a more holistic view of bilingualism, triggering a wave of research often referred to as the 'bilingual advantage', which I will discuss more in section 2.4. The fractional view that bilinguals have two language proficiencies that can be compared to monolingual speakers of each language informed discussion in the mid-1900s on how one language can be stronger or weaker than the other. Terms such as 'semilingual' and 'language loss' have been used to describe lower proficiency in one language, and have emerged from the double-monolingualism hypothesis that regards a bilingual as two monolinguals in one

person, and so his or her languages should be measured against proficient speakers of each language (Herdina & Jessner, 2002). A model that sees multilingualism not as a set of monolingual language systems working in isolation, but rather as a system of interacting languages, is the Dynamic Model of Multilingualism (DMM). Any analysis of one language within this system should always be viewed as a component within a whole language system (Herdina & Jessner, 2002).

Discussions of the deficit model led to the notion that simultaneous bilingualism could cognitively disadvantage children and affect their ability to become proficient in either language (Skutnabb-Kangas & Toukomaa, 1976). Discussion on semilingualism was heavily criticised in the 1990s and 2000s by Skutnabb-Kangas (2000), Phillipson (2003) and Wiley and Lukes (1996), who felt that the term negatively labelled immigrant groups and promoted imperialist attitudes that suppressed heritage and indigenous languages; in addition, from a methodological perspective, comparing bilinguals' language proficiencies to monolinguals was argued to be unfair and biased. At the moment, there is a shift away from the deficit view of bilingualism; emerging models do not suggest that one language 'damages' the other, but more so that an individual's bilingual development is heavily informed by external factors, such as societal, political or educational influences (Baker, 2011, p. 11).

Holistic views of bilingualism reflect a general trend in society and education towards acknowledging socio-cultural diversity, a tendency that has likely resulted from an increase in mobility and diversity, which has, in turn, influenced socio-linguistic discourse (Franceschini, 2009). The notion of proficiency in either language is increasingly seen as multidimensional, as well as highly contextual and dynamic. An individual's language competency can no longer be divided into the study of competency in each language because the languages are

interrelated and can be heavily influenced by familial, cultural and educational factors (Franceschini, 2009). Grosjean (1997) suggests that instead of assessing bilinguals according to monolingual norms, it is fairer to compare a bilingual's language proficiencies with other bilinguals, and that we should be moving away from traditional monolingual language tests for bilinguals and instead be using evaluations that look at bilinguals' overall communicative competence (Baker, 2011, p. 12).

### **1.8 Chaos/Complexity Theory and Linguistics**

The terms 'chaos' and 'complexity' (as well as the idiomatic 'butterfly effect') are commonly associated with intricate scientific inquiry involving celestial bodies, weather systems and quantum theory (Hensley, 2010, p. 84; Hashamdar, 2012, p. 1503). These terms have also been adopted by economics and developmental psychology. Following Larsen-Freeman's pivotal 1997 application of the concepts to language learning, the terms found their way into the fields of linguistics and second language acquisition; but, as Lian (2011) highlights, the theory of chaos/complexity (as it is referred to) has yet to find its place in mainstream discourse on language learning.

Taking a complex system approach to multilingualism, language systems are conceived to be 'coupled', with each affecting the other; they interact and are integrative (Larsen-Freeman & Cameron, 2008). The chaos/complexity conceptualization of language acquisition enables us to discuss dynamic systems that contain interacting and ever-evolving variables (De Bot et al., 2005). Complex systems often have large numbers of components, but the focus is not only on the behavior of the individual components, but rather how they interact to form an overall system (Tamjid, 2007). Characteristics of complex systems include

dynamism, non-linearity, adaptability, unpredictability, feedback sensitivity, self-organizational and emergence (Larsen-Freeman, 1997; Hashander, 2012). Complex systems are said to behave orderly until they reach critical points, where they can become chaotic before adapting to change and continuing to evolve (Briggs 1992; Hashander, 2010). It is argued that chaos within complex systems is anarchic or disordered, but for Hensley (2010), this is not the case. Hensley compares complex systems to an island's ecosystem, a system that appears stable but whose system is only maintained through ongoing adaptation (Hensley, 2010, p. 86). In the case of an event that causes the island's ecosystem to become unstable, such as a natural weather event, the ecosystem can resume stability through adaptability. Importantly, after a chaotic event, the re-stabilised system is not the same as it was before; it is permanently changed, or, more precisely, *changing* (ibid). In complexity/chaos theory, the focus shifts from a static state of being to the process of 'becoming' (Tamjid, 2007), a concept itself borrowed from the Bergsonian idea of the 'perpetual state of becoming' (see Bergson, 1913, p. 130).

The notion that languages are not static but organic systems, subject to change and growth and in constant states of self-(re)organization due to continuous input (Tamjid, 2007; Hashander, 2012), is key to understanding the chaos/complexity theory of language. Instead of looking at language acquisition as additive and linear and learners as deficient in a language, chaos/complexity theory suggests that we need to shift towards understanding language acquisition and learners as creative restructurers of their languages, interlanguages and whole language systems (Tamjid, 2007). As Lian (2011) explains, an individual obtains 'a personal construction of knowledge organically rather than according to some arbitrarily predetermined sequence' (Lian, 2011, p.8). To complement such a conceptualisation of

organic, complex language systems, the application of Deleuze and Guattari's (1987) rhizome theory to explain language learning, identity and approaches to research design has also been introduced into the discourse (Lian, 2011; Cormier, 2008; Clarke & Parsons, 2013; Vasilopoulos 2016; Zhang & Mi, 2012).

Deleuze and Guattari's 'rhizome' is presented as a decentred system without a discernible starting point from which a hierarchical system emerges. The concept of the rhizome is applied to philosophical inquiry in which cause-and-effect is not linear, where a multiplicity of 'causes' and 'effects' intertwine. To this effect, Zhang and Mi (2012) and Semetsky (2006) embrace the distinction between the 'rhizome', a swelling and unpredictable multiplicity, and the 'tree', a hierarchical, stratified form of growth. For the language learner, the emerging multiplicity is unique and subject to his or her acquisitional experience. In relation to multilingualism, the rhizomatic model suggests we are dealing with *assemblages* that exist wholly in relation to other assemblages; not parallel language systems, but interconnected networks that form a dynamic system. There is one whole language system, not several independent systems, wherein each individual language can only be understood in relation to the others. For Deleuze and Guattari, 'there is not mother tongue, only a power takeover by a dominant language within a political multiplicity' (Deleuze & Guattari, 1987, p. 7), thus stressing how the parallel (monolingual) view of multilingualism represents these languages as being in a constant struggle, stabilizing and destabilizing, expanding and retracting, breaking and reforming.

Deleuze and Guattari relate the concept of 'rupture' to the multiplicity, a situation whereby the rhizome is distressed or affected, but unlike 'damage' caused to the (hierarchical) tree, a rupture is regenerative or restructuring. For the multilingual, the concept of rupture is useful in understanding how critical points in acquisition impact the language

system, which can manifest as both attrition or acquisition. But the system is ever-evolving; it cannot be ‘reset’ to a previous state.

### **1.9 Dynamic Model of Multilingualism (DMM)**

In recent years a more holistic model of multilingualism has emerged which proposes that we view a bi- and multilingual individual’s language system as one interconnected system. Hence, assessing a bi- or multilingual person’s language abilities becomes complex. Acknowledgement of typical language-usage characteristics of multilinguals, such as codeswitching and translation (Franceschini, 2011), has brought into the discourse the concept of ‘multicompetencies’ to describe the uniqueness of the multilingual skill-set, a useful approach that allows for a fuller, albeit highly complex, picture of a multilingual’s overall linguistic abilities to emerge. However, the holistic and multi-competence model of multilingualism is not without its critics. One of the major challenges to the multi-competency and whole-language system is the model’s assumption that the monolingual language system is, by definition, *less* dynamic than the multilingual system, a polemical issue that is beyond the scope of this thesis (see Franceschini, 2011).

Recognising that there are differences between bi-lingualism and trilingualism has led to the emergence of a new paradigm of multilingualism called the Dynamic Model of Multilingualism (DMM) (Herdina & Jessner, 2002). Alongside a host of new terms, such as ‘hybridizing identities’ (Bailey et al., 2016), ‘linguaging’ and ‘translinguaging’ (Garcia, 2013; Otheguy et al., 2015), ‘super-diversity’ (Vertovec, 2007) and ‘dominant language constellations’ (Aronin, 2006 & 2016), DMM connotes a high level of complexity in language development, suggesting it is influenced by a wide range of variables. Hofer (2017)

refers to the dynamic model as the ‘new school’, a model that moves away from monolingual or fractional views and instead views a multilingual individual as someone who possesses multiple competencies (Cook, 1992, 2002) or a total-language repertoire (Grosjean, 2001; Herdina & Jessner, 2002; Clyne et al., 2003; De Bot, 2004; Freeman & Cameron, 2008), wherein languages are interconnected into a whole system that evolves through adaptation. For Hofer (2017), DMM acknowledges how multilingual proficiency and development is affected by sociological and psychological influencers (Hofer, 2017, p. 10). While there is certainly no shortage of multilingualism itself, research on individuals with three or more languages remains scant (Kroll et al., 2013), a deficit that the ongoing discussions on DMM and indeed this thesis, hope to address.

DMM finds its origins in Grosjean’s (1985) investigation into the holistic approach to multilingualism, which was further developed by Cook (1992) and Wei and Cook (2016) in their research on multi-competences (Hufeisen & Jessner, 2018). The model was realised as the result of applying a dynamic systems approach to the question of how multilinguals develop and use their languages. Central to DMM is the belief that the language system is one whole system that contains changing elements that are dynamically interrelated, influencing each other and the whole system simultaneously (Hufeisen & Jessner, 2018, p. 77). Also argued is the notion that a multilingual individual’s whole language system is unique to him or her and it is not comparable to a monolingual system. As such, DMM can be seen as a model that does not believe that multilingualism is monolingualism plus additional languages, or bilingualism plus additional languages. Multilingualism is seen as different and more complex because there are ‘multiple active interactions between the parts which lead to countless, often unpredictable, outcomes’ (Hufeisen & Jessner, 2018, p.79); it is a multi-functioning, cross-linguistic system that is constantly in a state of change over time because it

is susceptible to ‘sociological, psychological and individual factors’ (Hufeisen & Jessner, 2018, p. 77). DMM is also said to integrate other hypotheses about the interconnectedness and influence of language systems, such as Cummins’s Interdependence Hypothesis (1991). Hufeisen & Jessner (2018) define multilingual proficiency as ‘the dynamic interaction between the various language systems [...], cross-linguistic interaction [...] and the M(ultilingualism)-factor or effect’ (Hufeisen & Jessner, 2018, p. 78, see Table 1).

**Table 1:**

*Multilingual Proficiency Formula (Hufeisen & Jessner, 2018, p.78)*

Language System 1	Language System 2	Language System 3	Language System N	Cross-Linguistic Interaction	Multilingual Factor (meta-linguistic awareness and cross-linguistic awareness)	Multilingual Proficiency		
<b>LS1</b>	<b>LS2</b>	<b>LS3</b>	<b>LSn</b>	<b>+</b>	<b>CLIN</b>	<b>+</b>	<b>MF</b>	<b>= MP</b>

My own approach to the research presented here and my subsequent discussion of it are highly informed by the Dynamic Model of Multilingualism, which forms the basis of my methodological framework.

### 1.10 Multilingualism Across A Lifespan

Alongside the neurolinguistic research into bi- and multilingualism, discussions related to multilingualism and foreign language learning across the lifespan of an individual (Tokuhama-Epinosa, 2008; Bak & Mehmedbegovic, 2017; Leca 2016, European Commission, 2019) have also taken place. The discourse on multilingualism across a lifespan often relates to discourse on bilingualism, but the focus seems to be on promoting the role of multilingualism on neurological health (Vega-Mendoza et al., 2019). Bak and Mehmedbegovic (2017) define multilingualism as a spectrum of use and knowledge of

languages and suggest that this spectrum includes those who acquire languages simultaneously, sequentially or in a foreign language situation. They believe that understanding multilingualism as a spectrum reveals the nuances of multilingualism more fully than other models. Mehmedbegovic and Bak propose that adopting a whole lifespan approach to multilingualism means acknowledging the notion that a multilingual individual's language dominance shifts during his or her lifetime and in different contexts. Therefore, the monoglot belief that a multilingual has a static, 'preferred' language or mother tongue is rendered problematic. An example given by Bak and Mehmedbegovic (2017) of shifting language dominance is research undertaken with Gaelic and English retirees, whose daily language use changed upon retirement (referring to de Bruin et al., 2016). At the moment, discourse on multilingualism across lifespans tends to focus on the 'cognitive neural reserve' theory (Leca, 2016; Bak & Mehmedbegovic, 2017). It is believed that bilingualism and foreign language learning provide protection against cognitive decline and can improve cognitive performance across an individual's life (Bak & Alladi, 2014; Leca, 2016). Leca (2016) discusses three specific cognitive areas affected by ageing: the decline across cognitive function domains (memory, working memory, reduced verbal span, reduced information processing speed and increased variability), decline in language and communication (speech production, comprehension of meaning and vocabulary, grammar, and discourse), and the decline in different brain tissue types (grey and white matter) (Leca, 2016, pp. 9-10). It is also discussed that having cognitive reserves aid recovery from strokes and dementia (Bak et al., 2014; Alladi et al., 2016). It is proposed from the research that bilingualism can positively influence the cognitive reserve needed to address these cognitive declines because of the findings that executive functions have been found to be better in bilinguals than monolinguals (Luo et al., 2010; Della Rosa et al., 2013; Zou et al., 2012;

Bialystok et al., 2012), white matter density is greater in bilinguals than monolinguals (Van De Craen et al., 2012), and grey matter density is greater in bilinguals than monolinguals (ibid).

What is clear is that the discourse on multilingualism across lifespans intends to broaden the discussion on individual multilingualism to one that acknowledges a dynamic language system that brings cognitive benefits to the individual at various stages of life.

The theoretical framework of this thesis draws from the holistic view of multilingualism that views a multilingual individual's language system as interconnected, complex and unique. Before presenting the results of my study, it is important to provide more background on aspects of multilingualism and language acquisition discourse as it relates to globally-mobile bi- and multilingual children who attend international schools.

## **CHAPTER 2: Overview of Individual Childhood Bilingualism and Multilingualism**

In this chapter, the notion that children are a specific group with distinct developmental stages, rights and status is presented. An overview of the history of research literature on children acquiring more than one language is offered. The terminology related to the categorisation of acquisition situations seen in children is explored. The recent shift towards more positive attitudes regarding children learning multiple languages and the neuro- and psycho-linguistic findings that are contributing to this are shared. Following this, specific linguistic behaviours that are often observed in bi- and multilingual children are presented, as well as examples of how their language competencies are subject to flux. Finally, the influence of family, community and schools, in particular as related to strongly-held beliefs and well-established approaches associated with multilingualism are discussed as a means of establishing an ethical and theoretical framework for the direct research that is presented in later chapters.

### **2.1 Definition of Child**

The concept of childhood is relatively new and has developed over the past three hundred years as sociological changes and laws relating to labour, education, marriage and suffrage necessitated a legal differentiation between ‘child’ and ‘adult’, a distinction that has developed within historical, cultural and political contexts and is directly linked to prevailing societal perceptions (O’Reilly et al., 2013). There have been two major global achievements regarding progress towards a unified concept of childhood that are worth highlighting here.

Both the 1959 Declaration of the Rights of the Child by the United National General Assembly and the 1989 Convention on the Rights of the Child have enabled a robust definition of ‘child’ to emerge. Out of the 195 countries in the United Nations, 192 have signed the convention (only the USA, South Sudan and Somalia have abstained). According to the convention, a child is defined as ‘every human being below the age of eighteen years unless under the law applicable to the child, majority is attained earlier’ (The Office of the High Commissioner for Human Rights, 1989).

The belief that children are a specific group with specific needs and rights has generated some important discussions across many fields of research. Notably in the present context, childhood is seen as a developmentally dynamic period, so when discussing children, developmental ages can be used in addition (or in contrast) to chronological ages (O’Reilly, et al., 2013). Moreover, as children have been deemed a vulnerable group with additional legal rights, discussions on the moral implications of the exact manner in which research is conducted with children has been critical, in particular as it concerns the ethics of ‘informed consent’.

Within the academic discourse, several categories are used to discuss periods within childhood. While the definitions of ‘infant’ and ‘child’ are clear within the field of medicine (‘infant’ refers to the period from birth to the end of the first year of life and ‘child’ refers to the period from birth to puberty, see Farlex, 2012 & American Heritage, 2018), there are additional terms used, such as ‘early childhood’ or ‘preschool years’, ‘middle’ and ‘late childhood’, and ‘school-aged’, that are not as well-established or agreed upon.

## 2.2 Childhood Bi- and Multilingualism Research

For the most part, linguistics research into children and their language development has focused on a few specific areas, each linked to a specific discipline, namely the identification of types of bi- and multilingual children (socio- and psycholinguistics), the effects of language input/exposure on language production (cognitive- and sociolinguistics), the influence of familial, educational, societal and attitudinal factors on overall language development (sociolinguistics), and the neurological processing of language (neurolinguistics). Before the 1960s, there was a tradition of researchers studying childhood bilingualism in order to observe and record the language development of their own children (Ronjat, 1913; Leopold, 1939-1949; Burling, 1959), a practice that has continued to more recent times (Saunders, 1982; Taeschner, 1983; Fantini, 1985; Hoffman, 1985; Li, 1999; Caldas, 2006; Cruz-Ferreira, 2006). Following a wave of migration to North America in the 1960s and the publication of discourse that started questioning the dominant negative (i.e. 'deficit') model of bilingualism, ever-more research that focuses specifically on bilingual children emerged. Much of this research was focussed on parents raising bilingual children, such as Metraux's 1965 work with bilingual children of American-French parents. While there has been much research on bilingual children, there has also been a large number of studies into third language acquisition in children over the past thirty years (Hoffman, 1985; Ringbom, 1987; Thomas, 1988; Cenoz & Valencia, 1994; Sanz, 1997; Lasagabaster, 2000; Muñoz, 2000; Sagasta Errasti, 2003; Brohy, 2001), Thomas, 1992; Ender, 2007; Kemp, 2001, 2007). There has also been a surge in discussion on positive aspects of bi- and multilingualism in children (Bialystok et al., 2008; Bialystok et al., 2009; Blumenfeld & Marian, 2009; Colzato et al., 2008; Marian et al., 2009), most notably concerning the

identification of specific cognitive advantages and intellectual enrichment (Gulutsan, 1976; Cook, 1997). While bilinguals do not always outperform monolinguals in the research (see, for example, Bialystok et al., 2008 lexical retrieval research), the sheer amount of academic discussion exploring possible bilingual cognitive advantages in the past fifteen years in particular has led to several outreach initiatives led by academics (for example, those initiated by Prof. Antonella Sorace and Prof. Thomas H. Bak in the UK), which is bringing the research into public discourse. What is generally agreed upon across the research is that due to the rapid neurological development seen in childhood, in addition to the multiple factors that can impact the extent to which a child reaches his or her developmental potential (Black et al., 2017), the study of childhood multilingualism and its effects is indeed complex.

### **2.3 Describing Bi- and Multilingual Children**

In order to distinguish a bi- or multilingual individual who has acquired more than one of his or her languages from birth from a bi- or multilingual individual who has acquired his or her languages after developing one language since birth, two important terms have emerged: ‘simultaneous’, and ‘sequential’ (or ‘successive’) bi- or multilingual. The term ‘simultaneous bilingual’ refers to an individual who has acquired two languages at the same time from birth (Padilla & Lindholm, 1984; Baker, 2008; Haith & Benson, 2008). The terms ‘infant bilingualism’, ‘bilingual first language acquisition’ and ‘bilingual acquisition’ are also used synonymously with simultaneous bilingualism (Baker & Wright, 2017, p. 97). Cenoz (2000, p. 40) in his discussion of potential scenarios for the acquisition of three languages, describes two possible combinations that fit this framework: Combination 1: the simultaneous acquisition of L1 and L2 and L3, and Combination 3: The simultaneous

acquisition of L1 and L2 followed by the learning of L3 (ibid). The acquisition of a new language that is different from a language in the home, and usually acquired at nursery or school via interaction with other people speaking that language (teachers, other students, bus drivers, etc.), is referred to as ‘sequential or successive bilingualism’ (Baker, 2017, p. 97, referring to Barron-Hauwaert, 2004). In some of the discourse, sequential or successive bi- and multilingualism can be referred to as second language acquisition (SLA), what Cenoz (2000) refers to as ‘Combination 2’: the consecutive acquisition of L1, followed by L2 and then L3 (2000, p. 40).

There is one category proposed by Cenoz (2000, p. 40), a variation on Combination 2 in which L2 and L3 are acquired simultaneously after learning L1, which can be considered as a both successive and simultaneous acquisition situation. There are some who classify individuals as simultaneous bi- or multilingual if they acquire more than one language before the age of three (Unsworth, 2013). Therefore, a child who is monolingual and acquires another language after the age of three can no longer be classified as a simultaneous or sequential bi- / multilingual. When we look at Petitto’s (2009) neurolinguistic research into language processing, it could be argued that there is some room for moving the cut-off point to the age of five. Petitto (2009) found that bilingual adults who had acquired their languages before the age of five years old process their languages in very similar ways to monolinguals, overlapping dual language processing in the left hemisphere of the brain (Petitto, 2009, p. 190). In contrast, bilinguals who had acquired their second languages after the age of five years old showed more bilateral and frontal lobe activation and left ‘neural signatures’ of the process (Petitto, 2009, p.191).

The particular age when simultaneous and sequential bilingual children acquire their languages is also argued to affect their acquisition (Unsworth et al., 2014; Kupisch & Weijer, 2016). While more research is necessary to understand the significance that the age in which you learn more than one language has to language learning, cognition and behavior, the terms ‘simultaneous’ and ‘sequential’ are useful categories to discuss characteristics of both groups.

## **2.4 Childhood Bi and Multilingualism and Cognitive Advantage Discussion**

In the late 1950s, a theory was proposed by Penfield and Roberts (1959) to understand how a bilingual switches off one language to activate the other. Further studies later proposed that there could be an output and an input switch upon which the speaker has some degree of control (Macnamara, 1967). The ‘two-switch theory’ was later questioned after natural code-switching in bilinguals was closely observed (Appel & Muysken, 1987). Since then, much of the neurolinguistic and psycholinguistic research has been driven by technological advances in brain imaging. Neuroimaging techniques, such as magnetic resonance imaging (MRI), functional magnetic resonance imaging (fMRI), diffusion tensor imaging (DTI), event related potentials (ERPs), magnetoencephalography (MEG) and electrocortical situation mapping (ESM) have enabled neurolinguistics to identify brain activity differences in multilinguals. Researchers have been interested in whether the brain processes languages using common or different mechanisms depending on specific characteristics. Research foci includes the age of acquisition, the amount of language exposure, language dominance, and differences between simultaneous and sequential bilingualism.

The brain imaging research suggests that there are differences in the way monolinguals, bilinguals and multilinguals process language, which has helped researchers better understand some observations and theories proposed that relate to the discussion of cognitive advantages in bi- and multilingual children. Two important findings have shown how bi- and multilingual individuals have weaker left-hemisphere lateralization than monolinguals (see Higby et al., 2013 referring to Ding et al., 2003; Ibrahim et al., 2010; Pillai et al., 2003; Proverbio, et al., 2004; Sussman, et al., 1982). Bilinguals who have acquired their additional language earlier show more right hemisphere activation than later bilinguals (Higby et al., 2013, p.72). Besides neural activation research, there has also been research on cortical and subcortical density and age of acquisition. These studies (Weiss & Dempsey, 2008; Proverbio et al., 2007; Peltola et al., 2012) suggest that the brain creates neural systems depending on when an individual acquires his or her languages; monolinguals and proficient sequential multilinguals show similar organisational systems when compared to simultaneous multilinguals who have a very different system (Higby et al., 2013, p. 74). Research that has looked at the level of proficiency and brain activation and processing when working in L1, L2 and L3 presents some findings that may be key to understanding the results of my research. One finding is that multilinguals with higher proficiencies in their non-native languages show less intense or spatial activation patterns (Higby et al., 2013, p.74). Bilinguals processing in their L2 increases more right hemisphere activation than when processing in the L1 (Higby et al., 2013, p.71). In trilinguals, the three languages were activated in the same cortical areas, but other areas of the brain were activated when the participants were using their less proficient languages (Vingerhoets et al., 2003; Briellmann et al., 2004 ;Videsott et al., 2010). Finally, research by Kave et al. (2008) and Parker Jones et al. (2012) reported greater neural activation in multilinguals when using their languages

compared to bilinguals. What is clear from all the research findings discussed is that there are neurological differences in the way monolinguals, bilinguals and multilinguals process their languages, but that we are still developing an understanding of what the findings mean and how they relate to sociolinguistic aspects of language learning.

The main argument of the cognitive advantages of bilingualism hinges on the neurological advantages of controlling mechanisms that deal with linguistic interference and the inhibition of language activation (Van Hell & Dijkstra, 2002; Shook & Marian, 2013). It is the repeated simultaneous use of these mechanisms that is said to produce cognitive advantages. Bialystok (2001) and et al. (2009) states that the brain mechanism responsible for maintaining perceptual attentional set not only develops slowly during childhood in bilingual children, but that bilingual children are more susceptible to linguistic intrusions that need suppressing, resulting in the development of stronger functioning in the frontal lobe. Carlson and Meltzoff (2008) also found that frontal lobe functions in children aged 5-6 years were influenced by language experiences (Carlson & Meltzoff, 2008, p. 293), and it has been proposed that unbalanced bilinguals have greater within-language interference when using their dominant language, i.e. that the dominant language is harder to suppress because there is greater between-language interference when using the weaker language (Shook & Marian, 2013, p.85 referring to Mägiste, 1985). In 2002, Van Hell and Dijkstra proposed a theory that the same could be seen in trilinguals that find suppression harder when their languages are stronger because less proficient languages are not co-activated to the same degree. Marian et al. (2013) reports on research that found that balanced bilinguals showed faster response times in Stroop tasks when compared to unbalanced bilinguals, suggesting there is less interference the greater the balance of proficiencies (Marion et al., 2013, p.20). The extent to

which the suppression of competing items develops attention or vice versa, the relationship between cognitive advantages and linguistic proficiency, and cognitive advantages of bilingualism compared to multilingualism are still ongoing discussions that require additional research in order to help us understand the relationship between language development and neurological development in children.

There are many factors that affect a child's bi- and multilingual development and as such the rate and degree of language acquisition is not just genetically-determined but also environmentally-influenced, both of which also affect a child's overall cognitive competencies (Bialystok, et.al, 2009). Studies on selective attention and inhibitory control in monolinguals, bilinguals and multilinguals have been the catalyst for the creation of the outreach programmes mentioned in section 2.2, as well as populist understanding of the bilingual advantage. The main areas of discussion regarding children have been the development and management of selective attention and inhibitory control in bilinguals and trilinguals, in particular as it relates to the extent to which executive control advantages resulting from heightened selective and inhibitory control offset other external factors, such as socioeconomic disadvantages (see Prior & Gollan, 2011), or are perhaps influenced by language use in specific contexts (see Costa et al., 2009).

## **2.5 Childhood Bi- and Multilingualism Behaviours: Borrowing, Mixing, Code-Switching**

Linguistic discourse has recently seen an increase in the use of multilingual jargon, as well as a move away from language with a (historically) negative connotation; terms such as 'borrowing', 'code-switching' and 'mixing', for example, are ever-more frequently utilised,

and in an increasingly positive way. Edwards (2005) uses the term ‘transference’ rather than ‘interference’ as he argues it is a more neutral term (Edwards, 2005, p. 41), and in their discussion of intrasentential code-switching, Müller and Ball (2005) point out that such behaviour is neither random or exceptional (Müller & Ball, 2008, pp. 50-51), and should not be considered as deficient or abnormal for multilinguals. Hua and Wei (2008) further discuss bilingual children and how their mixing of languages is not at all arbitrary, but, in fact, rule governed, citing the common example of single-word nouns being inserted into another language’s grammatical system, following the grammatical constraints of that language (Hua & Wei, 2008, pp. 173-177). In fact, in young bilinguals, code-switching can occur for pragmatic and stylistic reasons, not always as a coping strategy to overcome a lack of competency in the target language (Müller & Ball, 2005, p. 55). Research from clinical sociolinguistics suggests that it is the inability to code switch, or code switching in inappropriate situations, that should be seen as possible indicator of language delay or disorder in multilingual children (Hua & Wei, 2008; Pert & Letts, 2006), rather than just the act of code switching itself.

## **2.6 Establishing Language Competencies in Bi- and Multilingual Children**

Discourse that focuses on bi- and multilingual children’s language competencies categorises competencies into the language domains of phonology, syntax and morphology, lexicon/semantics, and language usage, the assessment of which will be discussed more in Chapter 4. A major challenge when assessing language competencies in bi- and multilingual children is that their competencies are subject to fluctuations (Toppelberg & Collins, 2010, p. 3) because of a multitude of influences. Over the past twenty years, the extent to which

exposure to a language influences acquisition of that language in children, and the extent to which that then affects which language(s) are dominant, has been much discussed. When establishing linguistic dominance in children, four output areas are often discussed: lexis (Barnes & García, 2013; David & Wei, 2008; Thordardottir, 2011; Mieszkowska et al., 2017), phonological abilities (Nicoladis & Paradis, 2011; Sundara et al., 2006), morphosyntax (Hoff et al., 2012; Place & Hoff, 2011) and morphology (Blom, 2010; Nicoladis et al., 2007; Paradis, 2010; Paradis, et al., 2011). In her summary of the research on language dominance, Unsworth (2016) suggests that with much research, the extent to which children's language experiences relate to their language proficiencies remains unclear (Unsworth, 2016, p. 159).

## **2.7 Childhood Bi- and Multilingual Acquisition Contexts**

When looking at a child's bilingualism, it is important to go beyond how the individual child processes or produces his or her languages. Hua and Wei (2008) propose three essential questions that one should use when looking at different forms of child bilingualism, namely the linguistic repertoire of the parents, the chosen language strategy used by the parent to teach language to the child, and the community sociolinguistic situation in which the child operates. Hua and Wei's approach builds on Romaine's (1995) 'six categories of bilingualism' (paraphrased version of Romaine's 1995 categories in Figure 1), a useful means of classification that helps progress discussion on the influence of school, home and community, as well as the attitudes towards language in these environments, on childhood bi- and multilingualism, all of which will be discussed in more depth later.

**Figure 1:**

*Types of Bilingual Acquisition in Childhood (paraphrased from original version by Romaine, 1995, pp. 183-185)*

Type 1: 'One Person - One Language'

Parents: The parents have different native languages with each having some degree of competence in the other's language.

Community: The language of one of the parents is the dominant language of the community.

Strategy: The parents each speak their own language to the child from birth.

Type 2: 'Non-dominant Home Language' / 'One Language – One Environment'

Parents: The parents have different native languages.

Community: The language of one of the parents is the dominant language of the community.

Strategy: Both parents speak the non-dominant language to the child, who is fully exposed to the dominant language only when outside the home, and in particular in nursery school.

Type 3: 'Non-dominant Home Language without Community Support'

Parents: The parents share the same native language.

Community: The dominant language is not that of the parents.

Strategy: The parents speak their own language to the child.

Type 4: 'Double Non-dominant Home Language without Community Support'

Parents: The parents have different native languages.

Community: The dominant language is different from either of the parents' languages.

Strategy: The parents each speak their own language to the child from birth.

Type 5: 'Non-native Parents'

Parents: The parents share the same native language.

Community: The dominant language is the same as that of the parents.

Strategy: One of the parents always addresses the child in a language which is not his/her native language.

Type 6: 'Mixed Languages'

Parents: The parents are bilingual.

Community: Sectors of community may also be bilingual.

Strategy: Parents code-switch and mix languages.

## 2.8 Language Exposure, Proficiency and Dominance

The discourse on language dominance in bi- and multilingual children generally focuses on three areas: the quantity of exposure to languages (Chondrogianni & Marinis, 2011; Gathercole & Thomas, 2009; Gutiérrez-Clellen & Kreiter, 2003; Unsworth, 2013), the quality of language the child is exposed to, including a range of linguistic variations (Jia & Fuse, 2007; Jia et al., 2002; Paradis, 2011; Driessen et al., 2002; Place & Hoff, 2011; Scheele et al., 2010; Franceschini, 2009), and the combined effect of quantity and quality of exposure on language preference or dominance (Sorace, 2005; Gollan et al., 2015).

Over the past twenty years, the research on language input and how it correlates to proficiency has attempted to establish exposure percentages necessary for an individual to produce that language. Pearson et al. (1997) found that the exposure percentage necessary for a child to speak a language without reluctance is 20%; that is to say, 20% of all a given subject's exposure to language is to the language in question. Fifteen years later, Hoff et al. (2012) also calculated 20% as an absolute minimum amount of language input necessary for a child to be able and willing to use that language. Exactly how 'use of a language' is defined brings us to the discussion of how much exposure or input is necessary for a language to be classified as a dominant language.

Over the past twenty years, the question of how to define language dominance in bilinguals has been discussed in research that focuses on comprehension and production (Müller & Hulk, 2001; Meisel, 2007; Mathews & Yip, 2011; Silva-Corvalán & Montanari, 2008). Several key points have emerged from the discourse on language dominance. For example, 'dominant language' is established as the language that a bilingual person uses most frequently and across most domains (Silva-Corvalán & Treffers-Daller, 2016, p. 4). Moreover, that language dominance can be affected by context and amount of exposure (Silva-Corvalán & Treffers-Daller, 2016, p. 5; Montrul, 2016), and language dominance in bilinguals can change over time with younger bilinguals showing more instability and swings (De Houwer, 2007) than adult bilinguals (Kupisch & Weijer, 2016). It is critical to acknowledge the multidimensionality and complexity of bilingualism when discussing dominance; to this effect, Silva-Corvalán and Treffers-Daller (2016) employ a scale that acknowledges that in any evaluation, and that at any given age, 'a developing bilingual may be more or less proficient in a specific aspect of one or both languages compared to other

developing bilinguals or monolinguals in those languages at an equivalent age' ( Silva-Corvalán & Treffers-Daller, 2016, p. 6).

Before discussing these factors more, I want to return to the exposure percentages mentioned above and how these have been used to determine dominance. In her comparisons of bilingual children's receptive and expressive lexical development to monolingual age norms, Thordardottir (2011) found that bilingual children needed to meet a threshold of 60% exposure in a language to reach monolingual peer's levels in expressive language, a finding supported by Unsworth (2016) who also suggests that there is a strong correlation between a bilingual child's proficiencies and the amount of current and cumulative exposure to his or her languages. Thordardottir calculated 'current exposure' as the percentage of exposure per week in a child's waking hours, and cumulative exposure as the proportion of exposure to his or her languages over a year. Unsworth (2016) correlates exposure to language to the amount of that language a child actually uses (Unsworth, 2016, p. 173), and proposes 65% input of a language is necessary before that language can be considered a dominant language (Unsworth, 2016, p.172). Importantly, Unsworth clarifies that linguistic dominance in a bilingual child is the child's *relative* proficiency of a language as compared to his or her other languages, not as compared to his or her monolingual peers (Unsworth, 2016, p.172). In connection to both Thordardottir and Unsworth's work, Mieszkowska et al.'s (2017) findings further suggest that children need rich and varied input in a minority language for that to transfer to performance in receptive and expressive lexical performance.

Over the past thirty years, research that has looked at language input and exposure in migrant contexts have found that shifts can occur in children's language dominances at certain points in childhood, and that these shifts occur more frequently in bi- and multilingual

children than during adulthood (Kupisch & Weijer, 2016). Hoffmann (1985) and Dewaele (2003) found in their studies of multilingual individuals that the quantity and quality of language input from parents is more dominant and active in the beginning of a child's life than language input from the community. What we then see is that language input expands when a child's social network expands (Hua & Wei, 2008); it is this expansion beyond the familial childhood environment that is discussed as being the primary determinant of language dominance in a child (Kupisch & Weijer, 2016). As Grosjean (2010) adds, bilingual children in migrant contexts can find that the majority language develops mainly due to the large amount of exposure to the majority language at school or with peers, a shift also seen in Mieszkowska et al.'s (2017) research on Polish/English bilingual children. They found that this shifting dominance to the community language has a significant impact on the minority language spoken at home unless families pay attention to increasing exposure to that language (Mieszkowska et al., 2017, p. 9). Mieszkowska et al.'s work supports La Morgia's (2016) findings on input and the development of heritage languages in bilingual Italian-English children. La Morgia found that parents' attempts to increase the quality of the language to which their children are exposed to, such as by increasing lexical richness or talk time, is ultimately insufficient (La Morgia, 2016, p. 213), and that exposure thresholds of over 20% are necessary for children to develop that language as a 'strong' language.

## **2.9 Family Language Attitudes, Usage Choices and Strategies**

The influence of family dynamics and language use on a child's bi- and multilingualism has been much discussed over the last thirty years. The areas of focus have

tended to be on the role of the mother, father and caregivers on the child's linguistic development, and the influence of the child's changing language use on family language use. It is proposed that the mother's language use with the child is especially important (Lyon, 1996), but it is also argued that the father's language use can affect the whole family's language use, particularly his language competencies in the languages being acquired by the child (Goodz, 1994). Discussion has also focussed on parental experiences of language learning and immigration experiences and how these influence decisions regarding familial language use (Curdt-Christiansen, 2009). Also researched is the role of caregivers and their ability to error-correct bilingual children more than mothers (King et al., 2008), as well as how their attitudes to the languages in use can affect language shifts in children (Kulick, 1992).

Exposure to languages is also linked to family strategy. Following the wave of global immigration in the 1960s, a bilingual parenting strategy emerged: the One Parent, One Language (OPOL) approach, or 'framework', as some prefer (Dopke, 1998), whereby each parent is encouraged to use only his or her mother tongue language with the child, in particular to avoid 'mixing'. On one side, the OPOL approach is proposed to support bilingual development in children (Saunders, 1980; Saunders, 1982), by creating balanced bilingualism (Juan-Garau & Perez-Vidal, 2001). It is believed OPOL encourages conversation development because it is child-centred (Dopke, 1992), and when followed and used before a child begins schooling in a language other than the OPOL language used at home, it will positively affect the maintenance of home languages after schooling begins (Takeuchi, 2006). But the OPOL approach has also been criticised as being elitist, inappropriate and ineffective (Søndergaard, 1981), as well as violating the normal usage of

languages in bilingual and multilingual interaction (Patterson, 1997). Furthermore, it has been proposed that the OPOL approach does not provide enough language exposure to develop balanced bilingualism as claimed (De Houwer, 2007).

An interesting area of discourse has been the influence of the child on familial language practices and ideologies (King & Fogle, 2013; Fogle & King, 2013). The role of the child as an independent language user and one with free choice illustrates how children create their own language ideologies (Schwartz, 2008) and identities (Hua, 2008) that can be different from older generations, and even challenge parental positions on language use (Hua, 2008). The bi- and multilingual child can indeed be said to influence home language use, which can result in language shifts (Cruz-Ferreira, 2006; Tuominen, 1999; Kulich, 1992; Pan, 1995) the effects of this sort of linguistic ‘power play’ reveals the individual, interpersonal and contextual nature of childhood bi- and multilingualism, and that linguistic beliefs and values of family members, including those of the child, can have a profound effect on the development of different languages.

As mentioned in the first chapter, attitudes towards bi- and multilingualism can vary significantly. Parental attitudes towards languages can be complex (De Houwer, 1998) and emotional (Kouritzin, 2000), but are highly important (Li, 1999). Parents in immigrant contexts feel pressure to support and develop the majority community language at home (Harrison et al., 1981) as a way of assimilating (Canarajah, 2008). For some parents, there is an embarrassment or a taboo in speaking bilingually in public (Yamamoto, 1995), and some parents have expressed embarrassment, stigmatization and shame due to using a minority language (McCarty, et al., 2008). There can be conflicts within families about the use of

minority languages (Pan, 1995) that can be affected by professionals who may advise families not to use their first languages at home (Bernier-Grand, 2009).

## **2.10 Community Attitudes**

The role of social factors on childhood language bi- and multilingualism has been extensively discussed (Hoffman, 1985; Fantini, 1985). The wider social networks that surround children can impact family language choices (Wei, 1994), a factor seen more prominently in adolescence when peers and social networks can shift language use in bilingual individuals (Caldas, 2006). It is argued that in communities where bi- and multilingual practices are the norm, this has a positive influence on childhood bi- and multilingualism (Zentella, 1997; Juan-Garau & Perez-Vidal, 2001). Hua and Wei (2008) discuss how different patterns of language behavior are impacted by not only attitudes towards bilingualism, but also less stable language contact. They mention the social status of languages and the role of institutional support for languages as influencers (Hua & Wei, 2008, p. 167). They discuss the influence of language attitude on children and their learning of languages, as well as the fact that immigrant children sometimes refuse to speak their home language(s) in public (Hua & Wei, 2008, p. 171), showing the children's awareness of status or difference. Cenoz and Jessner (2009) refer to a recent increase in status for minority languages, and highlight a link to the sociolinguistic contexts in which these re-appraisals tends to take place, as well as the resulting growth in multilingual educational opportunities (Cenoz, 2009).

In the discourse on language status and attitudes towards languages and their impact on childhood bi- and multilingual development, the terms 'elite' and 'folk' bilingualism are

used. An elitist approach to learning languages that privileges certain languages over other languages has been evident in educational systems for centuries. Examples of elite languages include Latin and Ancient Greek, and languages perceived to have economic or societal advantages within a community. The terms elitist and privileged bilingualism were discussed during the 1970s, 1980s and 1990s (Fishman, 1976 & 1977; Paulston, 1980; Baker & Jones, 1998) to describe often highly-educated middle- and upper-class families who have developed bilingualism by choice, often concentrating on the acquisition, or 'collection', of high-prestige languages. The mastery of several languages by the elite class is seen as a bourgeois concept with languages acquired as capital for personal advantage (Van Zanten, 2005). Multilingualism accompanied by international school education is seen as a way for the elite classes to distance themselves from middle classes in increasingly globalized contexts (ibid). It is also argued that language learning in schools is more of a priority to middle class families than lower classes (Van Zanten, 2002). Elite bilingualism is often associated with additive bilingualism (Guerrero, 2010) because the languages acquired are highly valued, socially-positioning, advantageous and often used by members of highly regarded social groups.

In contrast, 'folk bilingualism' is the development of languages for social, economic and educational survival purposes. Unlike elitist bilingualism, folk bilingualism is not acquired voluntarily (Guerrero, 2010, p. 168). It is also associated with subtractive bilingualism because in folk bilingualism contexts, these languages are perceived as low prestige, which can lead to children and their families focusing on majority community or elite languages to the detriment of minority language development, and in some cases to its outright loss in favour of (majority language) monolingualism (Guerrero, 2010).

## 2.11 Multilingual Children and Schooling

In 1974, Lambert discussed additive and subtractive bilingualism in societal and educational contexts and the role of schooling in influencing, both positively and negatively, children's bi- and multilingualism. Lambert's work was built upon by Cummins, who presented additive and subtractive effects on bilingual development as being intertwined with equity and power. In the 1990s, the importance of educational policy was highlighted by the South African anti-apartheid 'Language in Education' policy, itself a direct sociopolitical reaction against apartheid language policies that had had subtractive effects on bilingual children's languages in its promotion of English (Cummins, 2017).

In the 1990s, there was an increase in the discourse on children of immigrants and indigenous children and the fragility of their home or heritage languages because of sociolinguistic factors, such as language exposure and language attitudes. In Stölting-Richert's 1996 discussion on child migrants' language development in Germany, he discusses three factors that are central to understanding migrant children's language development: limited exposure to the home language, disconnect between the language variation of migrant language and their standardized forms, and the stigmatization the child may experience for being part of a subculture (Stölting-Richert, 1996, pp. 12-13). He suggests that these factors create instability in the linguistic development of this group, which he refers to as 'unstable intragroup bilingualism' (Stölting-Richert, 1996, p. 13). He refers to the idea of 'fluctuating reference', an approach that compares children's language competencies in their home language(s) to standard or 'correct' variations of these languages to which they have never been exposed (Stölting-Richert, 1996, p. 13). This deficit comparison of migrant L1s to

standard variations, he argues, leads to the child rejecting the home language (Stölting-Richert, 1996, p. 14).

Assimilation, acculturation and opportunities within schooling are said to have an additive and subtractive influence on bi- and multilingual children's languages (Toppelberg & Collins, 2010). Assimilation factors mean immigrant children are more likely to have language shifts or some loss of their home languages after school begins. The language demands placed on bilingual children to acquire high levels of the school language means that this is central to assimilating into a school community (Toppelberg & Collins, 2010). Research by Fillmore (2000) found that bilingual children attending English-speaking pre-schools were less able to speak their home languages after experiencing preschool. It is clear that school is one of the main socialising agents for children, in addition to new media and the Internet (Van Zanten, 2005). It is proposed that school languages and cultures are not the only influencers of bilingual children's languages; the home, societal pressures and the amount of formal and informal schooling experiences in languages also affect bilingual competence (Toppelberg & Collins, 2010; Garcia, 2013). However, the extent to which 'raciolinguistic ideologies', a term coined by Flores and Rosa (2015), persist in school despite an awareness of language loss, is highlighted in Pulinx et al. (2016) whose research with Flemish-speaking Belgian teachers found that 77% of teachers believed immigrant students should not speak their home languages at school, and a third stated they should be reprimanded if caught. Flores and Rosa (2015) point out that one way to ensure additive educational situations is to approach social linguistic practices in a heteroglossic way instead of monoglossic; by starting at this point, a multilingual child's full linguistic repertoire is acknowledged and affirmed, which in turn can aid instructional practices in school that stave off language attrition.

The discourse presented in this chapter directly informs the research methodology for the study that was carried out as part of this thesis presented in Chapter 5 and discussed in Chapter 6 and 7. In the coming chapters, the characteristics of and discourse that surrounds globally-mobile multilingual children from high-SES families educated in international schools will be discussed.

## **CHAPTER 3: Multilingual Children In International Education: Characteristics And Considerations**

In this chapter, several historic migratory periods are identified and discussed in terms of multilingualism. Through this discussion, the definition of the term *migrant* and the challenges facing researchers wishing to compare data on migrant children across countries are also addressed, as are the key factors emphasised in research literature that affect the linguistic development of migrant children. The emerging term *transnational* as an alternative to *migrant* is discussed in relation to the terminology associated with the sort of mobility experienced by high-socio economic groups. The new paradigms that view complex migration as a continual process, as opposed to a single event, are also referred to, as well as the possibility that international schools can serve as places where these paradigms converge. Finally, academic discourse on the experiences of multilingual children in international schools is reviewed and sociolinguistic areas pertinent to international schools' linguistic landscapes are highlighted, namely the notions of standard and non-standard variations of languages, English as a lingua franca and the emergence of 'International English'.

### **3.1 Periods of Migration**

As mentioned in Chapter 2, research on multilingual children has tended to follow patterns of migration. Zimmerman (1995) discusses four phases of migration: the war adjustment and decolonisation period from 1945-1960, large-scale labour migration from 1955-1973, restrained migration (including family reunification and refugees) from 1974, and the dissolution of socialism period (east-to-west migration) from 1988. Bahna (2008)

proposes an additional phase to Zimmerman's, which is the expansion of the European Union as a migratory period from 2004. An addition to this could also be the recent migration movements from South America to USA and from Africa and the Middle East to Europe, often referred to in the mainstream media as the 'migrant crisis'. These phases are useful to note because they show that causes of migration can differ, which in turn influence attitudes towards migrants, including children on the move.

### **3.2 The Child Migrant**

The term 'migrant' has no formal legal definition (UN, 2020) and is deemed a neutral term that can describe a status that can be either legal or non-legal, as well as both voluntary or involuntary (Althaus, 2015). The United Nations describes an international migrant status as 'someone who changes his or her country of usual residence, irrespective of the reason for migration or legal status' (UN, 2020). It defines 'short term/temporary' migrant experiences as lasting between three to twelve months, and contrasts this to 'long term/permanent', which is one or more years in duration (ibid). Despite these pragmatic definitions, some media organisations and politicians have been criticized for using the terminology incorrectly, thus creating negative images, fuelling xenophobia and stigmatising this group (Althaus, 2015). According to recent data from UNHCR et al. (2019), the actual percentage of child migrants between 5-9 years old was 25%, between 10-14 years old 30%, and between 15-19 years old 45% (UNHCR et al., 2019). One of the largest impacts for children who experience migration is to their education. In a recent analysis of migrant children coming to the EU, two thirds of migrant children had not attended school for more than twelve months, often because of migration travel times (ibid). Two major challenges to researchers of migrant children is that

as a group, they are often overlooked in the general discourse (Veale & Dona, 2018), and when they are included, the recording of statistics on migrant children varies considerably from one country to the next (UNHCR et al., 2019, p.8).

The disadvantages of migration for the migrant child has been a common discussion. In 1964, the migrant child was introduced by Frost in his discussion of migrants in US schools as ‘burdened by poverty and disease, deprived of education...rejected by communities and unwelcomed in schools...many are illiterate, most are educationally retarded’ (Frost, 1964, p. 129). Forty years later, after three major waves of global migration (see section 3.1), while the emphasis had turned to the uniqueness of the migration experience, issues such as trauma, depression, grief, acculturation stress, educational inequality and low socio-economic migrant status were still part of the discourse (DuPlessis & Cora-Bramble, 2005; Brind et al., 2008). Research on the language development of migrant children during the same period points out that this group are often perceived as having inadequate language skills because they are in societies that are not tolerant of linguistic differences (DuPlessis & Cora-Bramble, 2005). In fact, several other factors during this time were suggested to affect the migrant child’s educational success: school system design (Stanat & Christensen, 2006), segregation (Burgess et. al 2004), discrimination and educational inequalities (Stevens, 2007), and teacher expectations of migrant children (Strand 2007).

### **3.3 The Transnational Child and New Paradigms**

Parallel to the migrant child discourse in the 1990’s and 2000s was the emergence of the term ‘transnational’ by social scientists, originally a loose, unspecified term used to describe migrants who maintain multiple relations across geographic, cultural and political

borders (Glick Schiller, 1992). The difference between the ‘transnational child’ and the ‘migrant child’ is that the former was associated with the ideologies of global capitalism (Glick Schiller, 1992), cosmopolitanism and internationalism (Stokes, 2004), while the definition of the term *migrant* remains focused on simply the change of one place of residence to another; in contrast, the term *transnational* implies a more complex merger of ‘home’ and ‘host’ country, a blended identity that transcends fixed residency, a simultaneity of place, identity and concepts of ‘home’.

While the statistics discussed in section 3.2 could arguably perpetuate the view that child migration can cause deficits in language development, there is also discussion that explores complex migration and how migration intersects with different forms of mobility: the local and international (Veale & Dona, 2018). It is important to note that children are nearly always embedded in adult-facilitated migration, and that as opportunities to include migration become more global and shorter in duration, migrant children in such families are moving in and out of school systems as trailing members. Veale and Dona (2018) use the term ‘mobility-in-migration’ or ‘complex migration’ to describe short-term ‘micro-migration’ that takes place within more global forms of migration. They discuss the traditional ‘migrant as settler’ model as an outdated paradigm that sees migration with a static outcome, and propose a new paradigm, using terms such as ‘new mobilities’ (Baycan & Nijkamp, 2012), ‘serial migration’ (Ossman, 2013), ‘circular migration’ (Vertovec, 2013), and ‘transnational migration’ (Glick Shiller, 2003); these are terms that embrace the complexity of migration and attempt to account for phenomena like micro- within macro-migration, migrational fluxes, and dynamic movements (Veale & Dona, 2018).

### 3.4 The Elite Migrant

The use of the term *child migrant* over the last fifty years has tended to refer to children in families with low socio-economic status within their settled countries, often because they are refugees or seeking asylum status from fleeing their countries of origin. However, we must also consider the growing number of child migrants in high socio-economic status families whose families migrate for employment purposes (Hayden, 2006); it is this group that is the focus of my research, presented in the forthcoming chapters. While the experiences of both types of migrant children are somewhat similar, such as the commonality of feelings of being an outsider or experiencing ‘unrooted’ childhoods (Eidse & Sichel, 2011), the high socio-economic migrant child is more (continuously) mobile than the low socio-economic migrant child who is more (statically) migratory (Hayden, 2006), a key contrast that entails a host of differences. Since the 1980s, several terms have emerged to describe high socio-economic mobile families: these are ‘international business elite’ (Marceau, 1989), the ‘world class’ (Moss Kanter, 1997), ‘nouvelle élites de la mondialisation’ (Wagner, 1998), ‘new global elites’ (Friedman, 2000), ‘transnational capitalist class’ (Sklair, 2012), ‘transnational families’ (Bryceson & Vuorela, 2002), and ‘cosmopolitan’ (Weenink, 2008). What all these terms emphasise is the notion that the mobility experiences of this group create ‘international cultural capital’ (Prieur & Savage, 2013).

Research literature on cosmopolitanism often refers to the high-SES elite as collectors of, and contributors to, ‘cosmopolitan capital’, a concept widely discussed, but referred to by a variety of terms. Cosmopolitan capital, also referred to as ‘transnational capital’ (Borjesson & Broady, 2005) and ‘international capital’ (Wagner & Réau, 2015), is described as the

acquisition of social and cultural funds that enable the international social classes and new upper-middle class into positions of privilege and power within globalised social arenas. Weenink (2008) finds that high socio-economic parents with jobs in transnational companies desired to provide their children with cosmopolitan capital to extend their sociopheres (p. 1104). Research on university students classified as ‘international’ by their institutions discovered an increase in the likelihood of mobility and migratory behaviour among this group, namely that migration for tertiary study creates habitual migration (Party & Waldinger, 2008; Wiers-Jenssen, 2008). Moreover, the notion that educational institutions with international student populations are ‘breeding grounds’ for the creation and transmission of cosmopolitan values can be extended to primary and secondary educational institutions, namely international schools (Wagner, 1998; Prosser, 2018).

### **3.5 The Elite Migrant Child and International Schools**

International schools are not a homogenous group, and despite attempts to categorise international schools as such (Knight & Leach, 1964; Pönisch, 1987; Terwilliger, 1972; Hill, 2006), there has yet to be a definitive definition (Hayden & Thompson, 2013). Hayden and Thompson (2013) present three subgroups of international schools: the *traditional school*, established principally to cater for globally-mobile expatriate families for whom the local education system is not considered appropriate, the *ideological school*, established principally to bring together young people from different parts of the world to be educated together with a view to promoting global peace and understanding, and the *non-traditional school*, established to cater for the socio-economically advantaged elite who perceive their education to be of a higher quality than the national education system where they are located

(p. 5), and intended to supply the transnational capitalist class with globally-recognised educational qualifications that enables their children to access prestigious universities and competitive employment markets (see also: Dolby & Rahmen, 2008; Cambridge & Thompson, 2004; Sklair, 2012; and Brummit & Keeling, 2013).

### **3.6 The International School Multilingual Child and School Moves**

Another component of cosmopolitanism is multilingual development. Gunesch (2007) includes multilingual development as a key aspect of cosmopolitan cultural identity. In addition, early foreign language learning is often viewed as cultural capital (Draelents, 2016; Gunesch, 2004). Most international schools are 'English-medium' schools, meaning English is the language of academic instruction, but most international students are not L1 English-speaking (Hayden & Thompson, 2013). As Hayden and Thompson (2013) explain, there is a persistent, yet false, perception that multilingual children can cope with international school moves that include the introduction of a new academic language without any impact on the normal development of their other languages (p. 11). It is important to note that many children in international schools have several school moves. Research into school moves in low-SES families in the USA found the more a child moves schools, the greater the chance of negatively impacting overall educational achievement and literacy development (Reynolds et al., 2009). Research on high socio-economic multilingual children who experience school and language moves argue that this group develops superficial levels in their languages and that in extreme mobility situations, they can fail to reach the satisfactory level in any one language needed to effectively access a curriculum (Kusuma-Powell, 2004; Sears, 2015), a scenario sometimes referred to as 'fragmented language development' (Hayden, 2006).

Finally, a characteristic of high-SES, highly-mobile migrant families with several children is that children within the same family can indeed experience very different educational and linguistic trajectories to their siblings (Sears, 2015, p. 198).

### **3.7 The International School Child As Cultural And Linguistic Chameleon**

Multilingual children in international schools are often discussed in relation to how they navigate locations through the transnational lens that delineates a host country, home country and ‘in-between’ space. It is proposed that transnational children wear ‘cultural masks’ (Strong, 2011) that change in relation to a given context, situation or interlocutor (Barrett, 1999), making them ‘half local’ and often geographically and culturally strange to locals (Strong, 2011). Pollock et al. (2010) use the term ‘cultural chameleons’ to describe these children as they learn to ‘switch language, style or relating, appearance, and cultural practices to take on the characteristics needed to blend better into the current scene’ (ibid; 2010, p. 92). Within international education research literature, the terms ‘global nomad’ and ‘third-culture kid’ have emerged to account for complexities of identity among the group as they wrestle with transient relationships, as well as cultural and linguistic variation among themselves and others, that often results in a sense of ‘otherness’ (Hayden, 2006).

### **3.8 International School Childhood Bi- and Multilingual Acquisition Contexts**

In Chapter 2, a paraphrased version of Romaine’s (1995) ‘six categories of bilingualism’ was presented (Figure 1), as it is a useful means of classification that helps progress discussion on the influence of school, home and community, as well as the attitudes towards language and childhood bi- and multilingualism in these environments, all of which

will be discussed in more depth later. What follows in Figure 2 below is my own variation of this idea: a prototype for seven proposed ‘types’ of multilingual acquisition that can be found in international school families.

**Figure 2:**

*Seven Types of Multilingual Acquisition in Multilingual Children from High-SES Families Educated in International Schools (Prototype)*

Type 1: The Home-Connected Multilingual Child

Parents: The parents have different native languages with each having some degree of competence in the other’s language.

School Community: Neither native language of the parents is the dominant language of the school community. The child is mostly exposed to this language when outside of the home and in school.

Local Community: Neither native language of the parents is the dominant language of the local community. The child is mostly exposed to this language when outside of the home and school.

Strategy: The parents each speak their own language to the child from birth. The parents employ child carers in their languages or a different language. The parents may mix their languages.

Type 2: The Locally-Connected Multilingual Child

Parents: The parents have different native languages with each having some degree of competence in the other’s language.

School Community: Neither language of the parents is the dominant language of the school community.

Local Community: The language of one of the parents is the dominant language of the community.

Strategy: The parents each speak their own language to the child from birth. The parents employ child carers in their languages or a different language. The parents may mix their languages.

Type 3: The School-Connected Multilingual Child

Parents: The parents have different native languages with each having some degree of competence in the other’s language.

School Community: The language of one of the parents is the dominant language of the school community.

Local Community: Neither language of the parents is the dominant language of the local community.

Strategy: The parents each speak their own language to the child from birth. The parents employ child carers in their languages or a different language. The parents may mix their languages.

Type 4: The School-Connected and Locally-Connected Multilingual Child

Parents: The parents have different native languages with each having some degree of competence in the other’s language.

School Community: The language of one of the parents is the dominant language of the school community.

Local Community: The language of one of the parents is the dominant language of the local community.

Strategy: The parents each speak their own language to the child from birth. The parents employ child carers in their languages or a different language. The parents may mix their languages.

Type 5: The Single-Home Language Multilingual Child

Parents: The parents share the same native language.

School Community: Neither language of the parents is the dominant language of the school community.

Local Community: Neither language of the parents is the dominant language of the local community. The child is mostly exposed to this language when outside of the home and school.

Strategy: The parents speak the same language to the child from birth. The parents employ child carers in their languages or a different language. The parents may introduce the school and/or community language into a home language.

Type 6: The Single-Home Language Locally-Connected Multilingual Child

Parents: The parents share the same native language.

School Community: Neither language of the parents is the dominant language of the school community.

Local Community: The language of the parents is the dominant language of the local community.

Strategy: The parents speak the same language to the child from birth. The parents employ child carers in their languages or a different language. The parents may introduce the school and/or community language into a home language.

Type 7: The Monolingual-Home Multilingual Child

Parents: The parents share the same native language.

School Community: The language of both of the parents is the dominant language of the school community.

Local Community: Neither language of the parents is the dominant language of the local community.

Strategy: The parents speak the same language to the child from birth. The child has been educated in other languages that are different from his or her home languages.

### **3.9 Research in International School Contexts**

As mentioned in section 3.5, due to the ambiguity of the term ‘international school’, research on these institutions tends to be broad and encompasses many different school communities in different locations around the world. Furthermore, international school research is often linked to educational practice and conducted by people working at schools or affiliated to international organisations (Dolby & Rahmen, 2008). During the 1950s and 1960s, organisations were founded to foster research literature, namely the International Schools Association (ISA), the International Baccalaureate Organisation (IBO), and the Council of International Schools (CIS). During the last forty years, the International Schools Journal, the Journal of Research in International Education, the University of Bath International Education Research Database (IERD) and the International Baccalaureate Research Unit (IBRU) have supported the academic discourse of this field. International school research and specific discourse on multilingual children within these schools has

mostly emerged from discourse on English as an Additional Language (EAL) support in English-medium international schools (Sears, 2015), identity and the ‘third-culture kid’, additive and subtractive bilingualism (Collier & Thomas, 2002; Murphy, 2003; Carder, 2001; Sears, 2006), and the learning of host country languages. Throughout this literature are references to the various challenges of identifying specific learning difficulties in multilingual children in international schools (Haldimann & Holington, 2004; Hayden, 2006; Sears, 2015), but there is as yet to be a definitive academic discussion on typical and atypical language developmental expectations of high-SES multilingual children being educated at international schools.

### **3.10 International School Research: Multilingualism**

Whilst it is true that some multilingual children in international schools experience no difficulties at all, the overall educational success of this group is often dependent on strong school support systems and commitment (both familial and scholastic) to mother-tongue maintenance. However, the difficulty of obtaining developmental histories of children (medical, behavioural, linguistic), the use of inappropriate diagnostic tools with L2 English-speaking children, and teacher and familial knowledge of and attitudes towards bi- and multilingualism are all factors that are often stacked against the highly-mobile, multilingual student. The linguistic development of the multilingual child is not always checked, monitored, or shared. Firstly, schools with transient children are often reliant on parents for medical and behavioural information which families may or may not disclose (Kachirskai, 2002). Additionally, the very nature of transnationals means that there can be delays or difficulties accessing medical services (e.g. paediatricians), and other clinicians (e.g.

occupational therapists, speech pathologists, psychologists) because services are not available in the languages spoken by the family. Furthermore, transnational parents can feel anxious and guilty about their decision to relocate and so discussions of educational or language difficulties can become highly emotive. Finally, some external clinicians and teachers within schools use diagnostic tools to diagnose language-related learning disabilities that have not been designed to be used with or normed for multilingual students at international schools (Hayden, 2006; Sears, 2015). Despite international schools containing a large proportion of bi- and multilingual children, it is suggested that many international teachers do not know enough about childhood bi- and multilingualism or appreciate how this group use and develop their languages (Hayden & Thompson, 2013; Sears, 2016). In fact, international schools are described as having ‘hidden attitudes’ that are sometimes subtly conveyed within the school communities (i.e. shared by teachers, families and students within the international school ‘bubble’) (Hayden, 2006, p. 149). What is clear is that disentangling what is typical and atypical language development for high-SES multilingual children in international schools is complex, not only due to the many variables that affect their language development, but also due to the limited research into this group.

### **3.11 Sociolinguistic Discussion Relevant to high-SES Multilingual International School Children**

#### ***3.11.1 Standard and Non-Standard Language Variation***

During the 1990s there was a surge of research that focused on migrant children’s heritage languages (see Phillipson, 2003), mainly led by Skutnabb Kangas and her discussion on indigenous language decline (also referred to by Skutnabb Kangas as ‘linguistic genocide’, 2000). Linguistic rights started being discussed and were referenced in key

international documents, namely the Convention on the Rights of the Child (1989), the European Charter for Regional or Minority Languages (1992), and the Universal Declaration of Linguistic Rights (1996). In his discussion on migrant children, Stölting-Richert (1995) pointed out the disconnect between the migrant child and his or her association with a stigmatised migrant group. He describes how migrants' home languages can evolve to the point where the languages become estranged from the original forms (be they standard or dialect) because the contact situation is one in which the child's exposure is limited; hence, the language becomes subcultural. He argues that migrant community languages are in a constant state of flux because of the migratory experience. The notion of flux is also referenced in the international school research discussed previously (see section 3.6), so it can be assumed that this is a typical characteristic of migrant children regardless of SES or global mobility. Stölting-Richert also makes the important point that when we look at a migrant child's development in a language, we compare a fluctuating language to its traditional, standard variation, a variation which the migrant child has never had because of his or her migrant status (p. 12). The cause of linguistic fluctuation could be due to a lack of exposure to the language because of living or studying in geographical areas where the language is not used, or due to limited access to native speakers of the language in their communities.

Migrant children's language development is often complex due to the attitudes others have towards the non-standard language variations that migrant children understand and produce. Even though in instances where English is the academic language of the school, the regional and national variations of English within the staff, families and students vary considerably. In his research on speech-language therapists who have worked across different regions in which a certain language was used, Maclagan (2005) found that these

subjects reported great inconsistencies in what was considered to be acceptable language usage across these areas (p. 15). The sort of inconsistencies discovered by Maclagan highlight the difficulties inherent in the evaluation of language levels in mobile children; namely, against which set of lexical variations is the child being assessed? To understand this more in English-speaking international school settings, it is useful to discuss the variations of English to which multilingual children are exposed, namely standard variations, regional variations, and English as a *lingua franca*.

### ***3.11.2 English as a Lingua Franca***

As most international schools are English-medium schools, often the *lingua franca* in these school communities (staff, parents, children) is English, but the nature of the variety of English spoken is not always a standard, national variety (e.g. British English) because these communities consist of a variety of different L1 speakers who utilise standard, regional and non-native varieties of English. The research literature on English outside of native-speaker geographical locations, such as the UK or USA, has been dominated by the work of Kachru (1985), who describes World Englishes as ‘three circles’, wherein the inner circle represents countries where English is the L1 of the majority of the population (e.g. Australia), the outer circle represents countries where English has an official status and is spoken as L2 (e.g. India), and the expanding circle in which English has no official status, but is often used in education or business (e.g. Switzerland). Ten years after Kachru, the discussion on modern varieties of English developed further alongside the discourse in post-colonial culture, indigenous language preservation and the role of English as an imperial marker. McArthur (1997) discussed a global standard variety of English that occurs in the media, print, legal, commercial and international education contexts. In addition, Modiano (1999) identified

Mid-Atlantic/Transatlantic English as a variation that occurs after exposure to English away from a geographical English context, and one that has distinct pronunciation, lexis and grammar.

### ***3.11.3 International English as a Variation***

In the early 2000s, discussions on identifying a non-geographically anchored international variation of English began to emerge. The concept of international variations of English had been discussed earlier (e.g. Smith & Rafiqzad, 1979), but the idea of a denationalised variation of English increased during the 2000s, specifically the notion of an English not bound by the norms of native speakers from a specific geographical location (McKay, 2002; Jenkins, et al., 2001; Bolton & Kachru, 2006; Seidlhofer, 2011). It was proposed that European English, a non-native variety of English (also referred to as ‘Euro-English’), should join the list of developing World Englishes as compiled by Jenkins, et al. (2001). In her work on English as a Lingua Franca (ELF), Seidlhofer (2001), proposed that ELF is a variation that adapts through usage instead of relying on a native or standard variety of the language. She suggests that there are grammatically accessible forms of the language in ELF that are *not* acceptable in Standard English (in Jenkins et al. 2001, p. 15). In the 2000s, Seidlhofer and Jenkins did extensive work on International English with Jenkins (2000), identifying some phonological characteristics of International English in the *Phonology of English as an International Language* (2000) that resulted in Seidlhofer creating the Vienna-Oxford International Corpus of English (VOICE, 2009). Some characteristics of International English from this work are shown in Table 2.

**Table 2:**

*International English Characteristics (Jenkins, 2000; Seidlhofer, 2011)*

<b>Pronunciation</b>	<b>Lexical</b>	<b>Grammatical</b>
<ul style="list-style-type: none"> <li>● /θ/ can be pronounced as /f/</li> <li>● /ð/ can be pronounced as /v/</li> <li>● close approximation to core consonant sounds are generally allowed</li> </ul> <p>(Jenkins, 2000)</p>	<ul style="list-style-type: none"> <li>● creation of verbs using underlying analogy patterns e.g. 'to examine' used as verb coming from the standard English noun 'examination')</li> <li>● creating lexical innovations (e.g. bigness)</li> <li>● creating novel words (e.g. 'wellness', 'handy' - meaning mobile/cellular phone, 'pullunder')</li> </ul> <p>(Seidlhofer, 2011)</p>	<ul style="list-style-type: none"> <li>● using third person singular present zero</li> <li>● making redundant relative pronouns which and who</li> </ul> <p>(Seidlhofer, 2011)</p>

Modiano (2006) shows that the features of International English do not disrupt communication or comprehensibility in L2 English-speaking contexts, or, for that matter, in mixed L1 and L2 contexts. Seidlhofer (2011) explains that the emergence of International English goes beyond concepts of learning English as a foreign language and the acceptance of common low-level semantic and syntactic 'errors'; it is more so about the removal of the (proprietary) cultural norms and conventions that are embedded in language in order to create variations that are less about imitation and more focused on accommodation and adaptation (18). Therefore, whilst International English is not far removed from standard or 'accepted' variations, its small alterations actually contribute to the formation of an *international* identity (Crystal, 2012), in the same way that any use of language can contribute to a sense of identity.

International English as a variation is very applicable to transnational multilingual children from high-SES groups in international schools because they are not only developing

English in geographical locations where English is not the national or local language, but also developing familial languages that are also disconnected from the native-speaker geographical locations. They navigate several linguistic contexts simultaneously: English Lingua Franca with non-native speakers, English as a Foreign Language and English as an Academic Language with native and non-native speakers, which are sometimes driven by native-speaker standard variation, and other language variations in native-speaker and non-native speaker contexts. Thus, they are in a constant state of imitating, adopting, accommodating and adapting as they come into contact with native and non-native speakers of their languages. Transnational multilingual children in international school contexts use English for two purposes: enculturation to geographical native-speaker English situations (i.e. with native-speaker American or British teachers and students) and communication in international non-native speaker situations. It could be argued that they are learning to communicate with native speakers and non-native speakers simultaneously, and so they are not participating in only the accommodation and adaptation of international English, but also the imitation and adoption of native standard varieties with their teachers. Bolton (2013) describes a similar situation in his discussion of Indian customer service workers working in call centres that deal with UK and US customer issues. He describes how the Indian-English customer service workers are polycultural in the way they conduct their calls, using a 'native-like' standard variety of American and British English with native speakers that is deliberately employed and explicitly taught to them so they can consciously switch between several variations of English depending on the caller. It would seem that multilingual children in international schools are working in a similar polycultural way, switching their variations depending on their audience.

### ***3.11.4 Language Attitudes Towards International English and English as a Lingua Franca***

As discussions on typical and atypical language development of multilingual children are often held amongst educational professionals and parents in schools, the manner in which linguistic variations are perceived is important. In the particular case of English, social class and regional variations have fewer lexical and syntactic differences than pronunciation differences (Maclagan, 2005). There are some grammatical differences between American English and British English (e.g. already went and have already gone) and there are some lexical variations in Englishes spoken in British Commonwealth countries and ex-British colonies due to language contact with local languages and assimilation ( e.g. UK English word ‘food’ is ‘tucker’ in Australian English) (p. 20). It is common for multilingual children in international schools to be exposed to a full range of ‘Englishes’ from native-English-speaking staff. These children, however, do not develop a standard geographically-associated English, but instead develop an ELF/International English variation that has lexical, syntactical, grammatical and pronunciation that differs from standard varieties. If geographical standard English variations (e.g. British English, American English, Australian English) are used as benchmarks for typical language development, these children’s English could be perceived as clumsy or different by speakers unfamiliar with the variation.

In her discussion of ELF, Seidlhofer (2011) explains how native speaker proficiency is seen as the benchmark with which other variations are judged. As a result, anything that does not meet native speaker expectations, even within ELF contexts, is seen as an error. Native speaker usage is seen as perfectionism (Wei, 2009, p. 110) and as a membership device to native communities (Seidlhofer, 2011). It is proposed that the challenge is less with native L1 speakers of English and more with non-native speakers who often have negative attitudes towards non-native English varieties (Wei, 2009). ELF is said to have a ‘low’

language status because it carries a connotation of cultural identity deprivation and depersonalisation (Seidlhofer, 2011, p. 80), whereas a native variety of English is desired, even if a person only intends to use their English with other non-native speakers (McKay, 2009). In his discussion of how to establish how free a test is from bias, Brown (2004) includes some factors that directly relate to multilingual children in international schools. Brown (p. 318) lists the language variety of the test taker's local community, the dominant language variety of the test taker, the language variety used by the test, the test proctor and the test scorer as being critical. He states that these factors need to be compared when important decisions are being made from the assessment (p. 318), such as a diagnosis of atypical language development.

If multilingual international children are developing ELF/International English, but their English is being negatively perceived by native and aspirational non-native speakers, there is a risk that the variation of English and their other languages they have developed based on their global mobility are being overlooked and put them at risk of being perceived as developing atypically by family members, teachers, and clinicians. When we look at the examples of International English from Table 2, it is clear that there are some International English characteristics that could be judged as deficits if a geographical variation of English is used as the benchmark. For example, the relative clause redundancy and the absence of idiomatic expressions in International English are markers of Developmental Language Disorder, which will be discussed more in the next chapter. It would seem that by acknowledging international variations of language in multilingual children educated in international settings or who have been subject to educational mobility and have attended different schools with different school languages, there is a better chance that their languages can be judged fairly and accurately. Due to their exposure to multiple variations, judging

them against one standard variety of any language fails to account for their ability to switch successfully with speakers of more than one variation of a language.

## **CHAPTER 4: Typical and Atypical Language Development in Bilingual and Multilingual Children**

In this chapter, some of the different approaches used to establish typical and atypical language behaviours in bilingual children are presented. The approaches illustrate how the fractional view of bilingual and multilingual language and the use of a monolingual lens discussed in Chapter 1 can affect how bi- and multilingual children are assessed and diagnosed with atypical language development. The atypical language development terminology used in research literature is presented and the new, more-encompassing, term ‘Developmental Language Disorder’ (DLD) is discussed. Several key areas of discourse from clinical linguistics are discussed, including the question of commonality in atypical language development across languages; second language acquisition characteristics in bilingual individuals in relation to identifying markers for language disorders; linguistic and cultural bias in the assessment of language development; and the disconnect between the advice being given by researchers and actual practices taking place in school and clinical settings.

The notion of what is ‘typical’ language development in any language is based on a shared understanding of the conventions used to express and understand meaning in that language at different life stages (NIDCD, 2018). In order to establish typical language expectations and behaviours, it is important to understand what is considered atypical. The focus of establishing typical and atypical language development in monolinguals involves the study of an individual’s language. It would seem logical then that the focus of establishing typical and atypical language development in bi- and multilingual individuals would involve the study of an individual’s languages, but this is not always the case. Establishing what is typical and atypical in bi- and multilingual children is challenging. It is common to find three

approaches to establishing atypical language development in bi- and multilingual children (in Figure 3), all of which show the degree to which bi-and multilingual children's language development is understood. Issues with the approaches will be discussed further in the chapter.

**Figure 3:**

*Three Approaches To Establishing Atypical Language Development In Bi- And Multilingual Children*

*Approach 1: One Language Assessment*

A bi- or multilingual child's dominant language is identified by school, parents or clinician for evaluation, and other languages used by the child are excluded from assessment. Language development of the dominant language is assessed and compared against norms and standards for that language. Typical or atypical language development is then concluded and a language disorder diagnosis is given.

*Approach 2: Two Language Assessment*

A bi- or multilingual child's dominant languages are identified by school, parents or clinician for evaluation, and other languages used by the child are excluded from assessment. The assessor is also fluent in the dominant languages identified or uses interpreters. Language development of each chosen dominant language is assessed using assessments in the languages and compared against norms and standards for that language. Typical or atypical language development is then concluded and a language disorder diagnosis given.

*Approach 3: Multilingual Assessment*

A bi- or multilingual child's language history is completed by school, parents or clinician for evaluation. The assessor is also fluent in the languages identified or uses interpreters. Language development of each chosen dominant language is assessed using assessments in the languages and compared against norms and standards for that language. In some cases, the multilingual language system of the child is evaluated as a whole language system against other multilingual individuals. Typical or atypical language development is then concluded and a language disorder diagnosis given.

## **4.1 Terminology and Characteristics**

In order to establish typical behaviours and developmental expectations, understanding markers for atypical development are important. Three terms are often used in the academic discourse: 'language impairment', 'language disorder' and 'language delay'; henceforth collectively referred to as 'impairment'. Children who are considered not to have fully developed (or acquired) a language from birth or during childhood when compared to

their peers can be diagnosed with having a ‘language impairment’, ‘language disorder’ or ‘language delay’. These can be part of a global developmental delay that encompasses developmental delays in several areas (e.g. cognitive, social, emotional, speech, motor) or are identified as a specific delay not associated with other developmental disorders. One of the challenges to identifying speech and language disorders in children is the existence of ‘late talkers’, also referred to as ‘late bloomers’; these are children who display delay in language acquisition and production, but do not display cognitive or neurological development issues. This group eventually catches up with their peers as shown in the study by Whitehouse, Robinson and Zubrick (2011), who found that 70-80% of children who had been identified as *late talkers* had caught up with their peers after two years of being identified. To conclude, what can manifest as language impairment in young children can also be attributed to ‘late talkerism’.

Up until recently, there was no internationally agreed term for language impairment. The terms ‘specific language impairment’ (SLI) or ‘primary language impairment’ (PLI) are commonly used to describe clinically diagnosed atypical spoken language development that is not due to sensory or neurodevelopmental disorders (NIDCD, 2018). Along with ‘specific language impairment’ or ‘primary language impairment’, there are also other terms used, such as ‘procedural language impairment’ (Ullman & Pierpont, 2005), ‘childhood aphasia’, ‘language learning disability’, and ‘language acquisition disorder’ (Kohnert et al., 2009). The prevalence of language impairment varies in accordance to diagnosis, figures kept, and terminology used, but the general range has been reported as anything between 2% and 8%, depending on the research (for variance, compare, for example, Beitchman et al., 1986 ;Law. et al., 2000; Norbury, et al., 2016; Tomblin et al., 1997; Weindrich et al., 2000; and Wei et al., 2005). A major challenge to the researcher is the nomenclature, specifically the

inconsistency with terminology, and the absence of universal definitions for these terms (see the work of CATALISE, discussed below). The inconsistent manner in which impairment is diagnosed (NIDCD, 2018) increases the risk that the affected child will not receive adequate or correct support, a situation that more recent discourse suggests is changing for the better.

During the last four decades, the characteristics of language impairment have been much discussed. In 1981, Stark and Tallal defined ‘specific language impairment’ (‘SLI’) as a significant deficit in language ability, but explicitly excluded ‘children with known language deficit who had [a] hearing impairment, cognitive deficit, neurologic deficit, or emotional or behavioral disorder’ (1981, p. 114). For children who obtained a below-average nonverbal IQ score (standard score between 75-85), the terms ‘non-specific language impairment’ and ‘language impairment’ were instead preferred (Sahlén, et.al, 2000, p. 115). During the 1990s, other characteristics were discussed, such as deficits in morphosyntax, phonology and lexicon (Leonard, 1998); symbolic play and motor-skills (Johnston, 1994; Hill, 2001); and phonological memory and the processing of linguistic and non-linguistic information at a slower rate (Gathercole & Baddeley, 1990; Miller et al., 2001). Clahsen & Dalalakis (1999) nuanced the definition of specific language impairment as a language delay in the normal acquisition of grammar (‘morpho-syntactic errors’), but specified that it should occur ‘in the absence of neurological trauma, cognitive impairment, psycho-emotional disturbance, or motor-articulatory disorders’ (Clahsen & Dalalakis, 1999, p. 2).

By the end of the 2000s, a general understanding emerged that the key characteristics of specific language impairment were the late onset of language skills, less accurate and less frequent speech, slower rate of processing, and the production of more errors (Wei et al., 2005, p. 193). At this point, specific language impairment was more accurately re-termed as ‘primary language impairment’ or ‘PLI’. In light of this evolution of terminology, I will

specify that, in line with Kohnert et al. (2009), the preferred term here is the more accurate ‘primary language impairment’, as PLI does not ‘[presuppose] a particular etiological cause onto the diagnostic category’ (p. 102). PLI is diagnosed by ‘the presence of delays in language alongside motor functioning, hearing and performance IQ scores within the normal range’ (p. 102) and is specifically connected to comparatively poor expressive vocabulary, narrative skills, and even language-based social interaction (see, for example, Fujiki et al., 1999; Gertner, et al., 1994). Family history of language impairment was also established as a risk factor for PLI (Plomin & Dale, 2000), as are low education levels of parents and several other learning and reading impairments (Tomblin et al., 1997; Tomblin, 1992, Bishop 2001; Stromswold, 1998, Catts et al., 2001; Catts, 1993).

There has been disagreement on the nature and cause of language disorders (see Joanisse & Seidenberg, 1998; Marinis, 2008). Much of this has centred around whether language deficits are caused by deficits in linguistic knowledge or by general deficits in memory and processing mechanisms (Joanisse & Seidenberg, 1995; Hayiou-Thomas et al., 2004; Leonard, et.al, 2008). Looking at syntactic processing, Marinis (2008) found that language impaired children showed working memory capacity limitation and that their processing capacity limitation affected their retrieval of lexis (p. 201). Marinis claimed it was the processing mechanism that produces slower responses, but not due to a deficit in the grammatical system, which may be related to a common neurological deficit, and suggests that observed deficits in perceptual, cognitive and motor skills may be a result of language delays (see Kohnert et al., 2009, p.5).

## 4.2 Developmental Language Disorder (DLD)

In 2016, attempts were made to reach an international consensus to standardise language impairment nomenclature and the criteria for recognising language difficulties in children. Between 2015 and 2016, a multinational and multidisciplinary project named ‘CATALISE’ (Criteria and Terminology Applied to Language Impairments: Synthesising the Evidence) suggested the terms ‘language disorder’ and ‘developmental language disorder’ to replace previous terms, including ‘primary language impairment’ (‘PLI’).

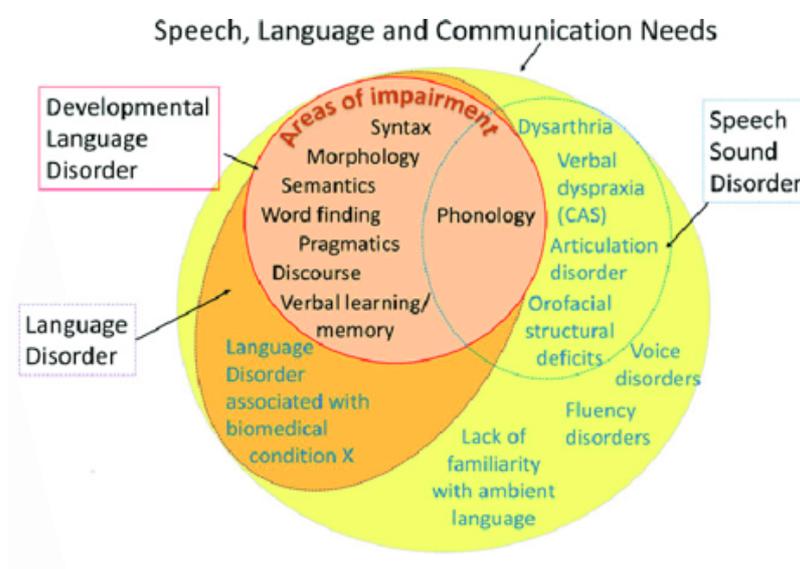
The CATALISE project produced twelve ‘consensus statements’ (listed in Bishop et al, 2017), several of which show a shift in the conceptualisation of language impairment that are worth highlighting here. The use of the term ‘language disorder’ is reserved for linguistic impairments associated with biomedical conditions, as opposed to ‘developmental language disorder’, where there is no identifiable connection to a biomedical condition (Consensus Statement 6); children with low non-verbal ability are ‘not preclude[d] from a diagnosis of DLD’ provided they ‘do not meet criteria for intellectual disability’ (Consensus Statement 8), a change from specific language impairment diagnostic criteria that intentionally excluded all children with low non-verbal ability; and the allowance that co-occurring cognitive, sensori-motor and behavioural impairments can co-occur with developmental language disorder, such as attentional problems (ADHD), motor problems (developmental coordination disorder), reading and spelling problems (developmental dyslexia), speech problems, and limitations of adaptive behaviour and/or behavioural and emotional disorders (Consensus Statement 9).

While Developmental Language Disorder is heterogeneous, some homogeneous areas of language impairment are identified by the CATALISE project: phonology, syntax, word finding and semantics, pragmatics/language use, discourse, verbal learning and memory.

Figure 4 shows the CATALISE venn diagram, which demonstrates how developmental language disorder sits within language disorder, as well as how they overlap with speech sound disorders. Table 3 represents a summary of the CATALISE project's key characteristics for developmental language disorder.

**Figure 4:**

*Venn diagram illustrating the relationship between Development Language Disorder, Language Disorder and Speech Sound Disorder (Bishop et al., 2017)*



**Table 3:**

*CATALISE Developmental Language Disorder Areas of Impairment (summarised from Bishop et al., 2017)*

<b>Syntax and Morphology</b>	<ul style="list-style-type: none"> <li>• Expressive problems with morpho-syntax</li> <li>• Receptive language impairments affecting syntax</li> </ul>
<b>Semantics</b>	<ul style="list-style-type: none"> <li>• Lexical semantic difficulties - poor understanding of multiple word meanings and/or restricted vocabulary</li> </ul>
<b>Word Finding</b>	<ul style="list-style-type: none"> <li>• Word finding difficulties - struggling to produce words despite having some knowledge of their meaning</li> </ul>
<b>Pragmatics</b>	<ul style="list-style-type: none"> <li>• Pragmatic difficulties affecting the appropriate production or comprehension of language in a given context</li> </ul>
<b>Discourse</b>	<ul style="list-style-type: none"> <li>• Weakness in processing sequences of utterances to form a coherent whole</li> </ul>
<b>Verbal Learning/Memory</b>	<ul style="list-style-type: none"> <li>• Problems retaining sequences of sounds or words over a short delay, learning associations between words and meaning, or learning statistical patterns in sequential input</li> </ul>
<b>Phonology</b>	<ul style="list-style-type: none"> <li>• Phonological problems accompanied by other language problems in preschool age</li> <li>• Phonological problems accompanied by other language problems in preschool age</li> <li>• Poor phonological awareness only if accompanied with other language difficulties.</li> </ul>

### 4.3 Atypical Language Development in Bilingual Children

Over the past twenty years, academic discourse that focuses on bilingual children and SLI has emerged. Much of this has centred on three areas: how SLI manifests in different languages, the similarities between these characteristics and typical features of second language acquisition, and the possible cultural and linguistic bias of the assessments used, which can lead to misdiagnosis in bilingual children. Two common terms used to describe Developmental Language Disorder (DLD) in bilingual children are ‘dual language impairment’ and ‘bilingual specific language impairment’ (Bi-SLI). Interestingly, in research of Bi-SLI, the term ‘bilingual typical development’ or ‘Bi-TD’ is sometimes used (Armon-Lotem, et al., 2015). Recent psycholinguistic and sociolinguistic research into childhood

bilingualism has also permeated into clinical discussion aimed at disentangling the characteristics often used as clinical markers for SLI from the typical markers of bi- and multilingual language development.

In the discourse on Bi-SLI, ‘universal factors’ that are independent of the specific language being evaluated are discussed as well as language-specific features (Thordardottir, 2015). Over the last fifteen years, the ways in which SLI can manifest in different languages has been presented (see Crago et al., 2009; Wei et al., 2005, and Table 4 below). It is claimed that a bilingual child’s language development in each language should be similar to a monolingual child with that language, and that comparing specific linguistic features is useful (Patterson & Rodriguez, 2005, p. 238). It is clear that bilingual language comparisons in each language to monolingual language development may not be quite so simple, as both languages could contain interlanguage influences, as well as cultural and linguistic variation that need to be understood and explained (Bialystok, 2001).

**Table 4:**

*Example characteristics of SLI in different languages (summarised from Crago, et al., 2008, pp. 278-279)*

<b>Language</b>	<b>Characteristics of language impairment</b>
<b>Cantonese</b>	<ul style="list-style-type: none"> <li>• verbal aspect morphemes difficult to produce</li> </ul>
<b>Dutch</b>	<ul style="list-style-type: none"> <li>• difficulty with finite-verb morphology, substitution errors in number and person agreement, errors with articles</li> </ul>
<b>English</b>	<ul style="list-style-type: none"> <li>• difficulties with finite-verb morphology (verb inflections, auxiliaries and copulas)</li> </ul>
<b>French</b>	<ul style="list-style-type: none"> <li>• produce non-finite verb forms - bare past participles, infinitives and null copulas, substitution errors with verb morphology - person, number and tense, more prominent verb morphology errors, object pronouns that take form of preverbal clitics - omission errors</li> </ul>
<b>German</b>	<ul style="list-style-type: none"> <li>• difficulty with finite-verb morphology, substitution errors in number and person agreement, errors with articles</li> </ul>
<b>Hebrew</b>	<ul style="list-style-type: none"> <li>• inaccuracies with person, number and gender in production of past tense morphology, derivational morphology - e.g. producing denominal adjectives accurately</li> </ul>
<b>Italian</b>	<ul style="list-style-type: none"> <li>• produce non-finite verb forms - bare past participles, infinitives and null copulas, substitution errors with verb morphology - person, number and tense, more prominent verb morphology errors, difficulties with articles, object pronouns that take form of preverbal clitics - omission errors</li> </ul>
<b>Japanese</b>	<ul style="list-style-type: none"> <li>• errors with case particles, prominent difficulties with accurate use of verb, morphology marking passives and causatives</li> </ul>
<b>Spanish</b>	<ul style="list-style-type: none"> <li>• produce non-finite verb forms - bare past participles, infinitives and null copulas, substitution errors with verb morphology - person, number and tense, difficulties with articles, object pronouns that take form of preverbal clitics - substitution errors</li> </ul>
<b>Swedish</b>	<ul style="list-style-type: none"> <li>• difficulty with finite-verb morphology, verb-second phenomenon (word order rule), errors with articles, nominal morphology</li> </ul>

#### **4.4 Issues in Assessing and Identifying SLI/DLD in Bilingual Children: Lexical Knowledge and Processing**

Lexical development is an important area in the discourse on bilingual children and language impairment. The use of lexical knowledge as a useful marker in aiding SLI diagnosis in isolation has been questioned, even with monolinguals (Gray et al., 1999, Spaulding et al., 2013). Lexical knowledge is often a factor that accompanies other SLI markers (Haman, et al., 2015, p. 197), but even when it is, it is an area often misinterpreted by clinicians assessing bilingual children for SLI (Armon-Lotem, 2015). In the late 1990s, it was claimed that the most poorly researched and understood area in children with SLI was the lexical-semantic domain (Crystal, 1998 in Sahlén, et.al 2000). The criticisms were based on the fact that whilst the assessments used to test lexis could establish lexical knowledge deficit, they did not account for cultural and experiential bias. Furthermore, the extent to which the assessments accurately estimate total vocabulary knowledge across languages in a bilingual was also questioned (Junker & Stockman, 2002; Pearson, et al., 1997), as was the use of single-language monolingual normed assessments with bilingual children (Marchman et al., 2009; Haman et al., 2015). As Sheng and McGregor (2010) highlight, a major challenge to assessment arises in bilingual vocabulary testing, as the type of limitations in breadth and depth considered to be impairments in monolingual children are indeed *typical* in bilinguals.

The practice of comparing bilingual lexical development in each language to monolingual lexical development continues, despite criticism that this practice fails to consider the fact that that bilingual children are known to have smaller lexicons in each

language when compared to monolinguals, and that such testing practices very likely underestimate their actual (overall) knowledge of vocabulary (Pearson & Fernandez, 1997; Junker & Stockman, 2002; Patterson & Rodríguez 2005), which should be determined by combining the results from both languages, and which could well result in scores in the ‘typical’ (for monolinguals) range (see Marchman et al. 2009 in Haman et al., 2015).

In recent years, discussion has turned to how lexical assessments conducted with bilinguals and measured against monolinguals can show difference in test performance in each language because of levels of language exposure and language interference (Haman et al., 2015; Armon-Lotem et al., 2015). Another common identifying marker for SLI is lexical processing capabilities. In children with SLI, the speed of lexical processing is slower and lexical access impaired (Haman et al., 2015, p. 202). A common assessment for this is the use of rapid automatic naming tests, which are given as a way of establishing neurological processing speeds. In addition, other indicators for language impairment are ‘mazes’, or ‘hesitation phenomena’ (pauses, repetitions and revisions), ‘prospective stall’ (pauses, hesitations, sounds related to speech planning), ‘retrospective repairs’ (self-corrections, revisions by speaker) and ‘repairs that influence syntax’ (Hansson, K., & Nettelblatt, 1999). Sahlén et al., (2000) discuss the linguistic contextual influence of naming and how linguistic contexts influence accuracy and speed of naming (p. 116; see also Kail & Leonard, 1986, McGregor & Windsor, 1996, Ceci, 1983). Bilinguals have also been shown to have slower processing of verbs and nouns (Sahlén et al., 2000, p. 202). In sum, the research shows that there is an inherent flaw in use of monolingual markers in the assessment of bilingual lexical processing, as well as behaviours related to language production speed.

#### **4.5 Issues in Assessing and Identifying SLI/DLD in Bilingual Children: Phonology, Grammatical Morphology and Pragmatics**

Phonological difficulties are established markers for language impairment. Research conducted by Kesharvaz and Ingram (2003) shows that bilingual children have separate phonological systems, but that these influence each other. Moreover, as there are phonological differences between languages (timing, stress patterns and intonation), the determination of phonological characteristics demonstrated by bilingual children with SLI needs more research in order to establish a baseline (Ingram, 2008). Furthermore, impaired grammatical morphology is discussed as a marker for SLI in every language (Leonard, 1998), but the type of impairment that qualifies a child as having SLI varies according to the typological characteristics of the language (De Jong, 2008, p. 263-264). Substitutions and omissions are both indicators with omissions observed in those using languages with sparse morphology, and substitutions when using languages with rich morphology (De Jong, 2008, p. 264). Some interesting research on Bi-SLI found that French-English bilingual children with SLI omitted object pronouns in French, but not in English (Paradis, et al., 2007), and in research that compared sequential bilinguals aged 7-9 years old to monolinguals of the same age, it was found that typically developing children in both groups made productive errors, with sequential bilinguals producing over regularizations and monolinguals producing more omissions (Jacobson & Schwartz, 2005).

Finally, children with SLI are said to have deficits in receptive and expressive language and pragmatic abilities (Hua & Wei, 2008), with pragmatic impairment being a secondary consequence of impairment (Perkins in Hua & Wei, 2008). Hua and Wei (2008) suggest that there is insufficient research on pragmatic impairment in children who speak

languages other than English, and that the acquisition of culture-specific or content-specific rules concerning interaction is an area in need of more attention (p. 152). Furthermore, they stress the importance of considering non-standard, regional, and social-cultural language variation, as well as cultural sensitivity to the specificity of language, and the selection of appropriate standardised and criterion-referenced assessments (p. 154).

While this is not a full overview of the discourse on characteristics used to identify SLI and DLD, there are themes that emerge from the discussions presented. It is clear that more research is necessary to identify the characteristics of SLI in bi- and multilingual children in order to determine how these characteristics can be distinguished from normal bi- and multilingual language development behaviours, especially in phonology, lexis, grammar and morphology, and pragmatics. A reoccurring discussion is the lack of appropriate assessment tools for establishing typical and atypical language development in bilingual and multilingual children, which means assessors falling back on the use of monolingual assessments and norms with this group, a practice that risks the emergence of mis- and/or over-diagnoses of language impairments in bi- and multilingual children.

#### **4.6 Assessment of Bi and Multilingual Children for SLI/DLD: Guidelines and Practice**

Investigating typical and atypical language development in bi- and multilingual children is more complex than monolingual children. Over the last fifteen years, schools have been accused of mistaking and missing language impairment in bilingual children because there is a poor understanding of how to identify if a child's language issues are related to the second language learning process or language impairment (Genesee, et al., 2004; Paradis, 2007; Haman, et al., 2015).

In 2008, Miccio and Scarpino observed that the number of clinical referrals for L2 English-speaking children in anglophone countries was increasing rapidly. While the number was reported as improving as educators' knowledge of bilingual children development increased, educators in English-speaking countries are criticised for their lack of knowledge of how bilingual children's languages change as they progress through school (Schwartz & Katzir, 2012). But it is not just schools that are at fault; a lack of knowledge in clinical research on the sociolinguistic issues that affect the accurate assessment and diagnosis of bilingual children also contributes to over-diagnosis (Damico & Ball, 2008, p. 109). In their guidelines for speech and language therapists, Wei et al. (2005) specify that bilingual children's language 'should be compared to that of other bilingual children who have had similar linguistic and cultural experiences, not to that of monolingual children in either language', and that second language errors 'must not be viewed as evidence of a disorder' (p. 204). Furthermore, they insist that the presence of rapid language changing ('mixing') is 'normal practice', and that lower proficiency in one of the languages due to lack of exposure is also a 'normal phenomenon' (p. 204).

Despite these guidelines, it is common for bilingual and multilingual children's language development to be compared to monolingual language development norms (Bialystok, et al, 2009). Typical bilingual behaviours, such as slower target word retrieval, lower word retrieval, slower response times, low rapid automatic naming performance are also characteristics for identifying SLI in monolingual children, so disentangling what is typical and atypical is critical (Bialystok et al, 2009; Thomas, 2011). Bilingual language mixing and code-switching are examples of common markers that are misidentified as SLI markers in bi- and multilingual children; this is likely due to the fact that such behaviours are interpreted as related to a lack of proficiency in one or both languages, rather than

situationally- and interpersonally-appropriate code-switching (Müller & Ball, 2005) or linguistic dexterity (Doherty & Khattab, 2008; Wei, et al., 2005). In fact, Pert and Letts (2006) found that a *lack* of code-switching in bilingual children may actually be an indicator of language impairment rather than the reverse (in Hua & Wei, 2006, p. 156). Finally, research on balanced and unbalanced bilinguals and competency control found that balanced bilinguals have greater control over the phonetic elements of language production, which allows them to use language in a monolingual way when talking to monolingual speakers (Doherty & Khatta, 2008 referring to Bullock et al., 2005). In contrast, unbalanced bilinguals carry over phonetic properties of a ‘base language’ into the guest language, which triggers incorrect phonetic activation, referred to as a ‘phonetic signature’ (Doherty & Khatta, 2008, p. 616), which in unbalanced bilinguals can be misunderstood by the clinician as an impairment.

Despite the above discourse in clinical linguistics and clinical sociolinguistics, it remains common for bilingual children to be assessed and diagnosed for language impairment in only one of their languages. The continued use of single language assessment practices for diagnosis with bi- and multilingual children is due to the difficulty obtaining suitable diagnostic tools in different languages (De Jong, 2008, p. 265). In addition, clinical and linguistic training for speech-language professionals tends to be grounded in monolingual norms (Müller & Ball, 2005, p. 62), which itself may hamper the willingness of clinicians to seek out or adopt new testing methods. The major challenge in assessing a sequential or successive bilingual child in one language is the fact they can display less or more vocabulary knowledge, make fewer or more pronunciation errors, and/or express themselves grammatically accurately or less fluently in one language than the other (Wei, et al., 2005). Haman et al. (2015) make an important point that assessing a bilingual child in one language,

such as the language of schooling, can be useful if the purpose is to establish a bilingual child's educational potential in that language, but not for establishing language impairment. Unlike a monolingual child, a bi- and multilingual child's language knowledge is spread across its languages (Patterson & Rodríguez 2005, p. 234), so to diagnose an impairment without establishing full linguistic competence seems injudicious (Haman, et al., 2015; Armon-Lotem, 2011; Kohnert, 2010; Paradis, 2007).

#### **4.7 Assessment of Bi and Multilingual Children for Bi-SLI: Assessor Attitudes**

Other aspects relating to the assessment of bi- and multilingual children's language development as typical or atypical include cultural norms and expectations, as well as how variation itself can influence the assessment and diagnosis process. It is recommended that the assessor familiarise him- or herself with cultural, social, cognitive, linguistic and communicative norms of the speaker's community, uses natural elicitation procedures and conducts observations that are culturally appropriate. For example, the use of silence can be interpreted differently in different cultures (Wei, et al., 2005), and certain linguistic features used by speakers can trigger different reactions in different parts of the world. Folk beliefs transmitted through interactions with teachers, parents, peers, spouses, medical professionals, speech-language pathologists and audiologists, can also influence clinical practice (Preston & Robinson, 2005). In short, different norms and expectations regarding interaction need to be understood and accounted for in clinical assessment (Hua & Wei, 2008) in order to effectively reduce cultural biases (Carter et al., 2005, in Hui & Wei, 2008, p. 155).

Another major challenge to the assessment of bi- and multilingual children is the already heterogeneous nature of what is considered in the diagnostic criteria for SLI (De

Jong, 2008; Baker, 2017); when multilingualism is added as an additional variable, the heterogeneity of SLI increases further. While there has been more research and discussion on Bi-SLI and disentangling typical bilingual characteristics from SLI characteristics (Armon, et al., 2017), more awareness of childhood multilingualism, including social, cognitive and linguistic norms is needed (De Jong, 2008; Damico & Ball, 2008; Wei, et al., 2005). One way of doing this is by following what Wei et al. (2005) describe as a ‘culturally valid procedure’: creating a language pathology and current language context so that assessments can be reviewed with language diversity in mind. In addition, understanding that code-switching and mixing is normal and that ‘errors’ in and ‘imperfect acquisition’ (speech errors, unbalanced vocabulary between languages, grammatical accuracy in one but not both languages) of non-dominant languages should not automatically be acknowledged as SLI characteristics, and that bilingual children’s language development should be compared to other bilingual children, not to monolingual children (Wei et al., 2005; Damico & Ball, 2008). While greater understanding of the heterogeneity of SLI / DLD and sociolinguistic factors are recommended, the practicality of doing this in clinical settings remains a challenge.

#### **4.8 Assessment of Bi- and Multilingual Children for Bi-SLI: The Assessments**

Bias in clinical testing situations has been discussed over the last forty years (Seymour et al, 1981; Leonard & Weiss, 1983, Stockman, 1996; Wyatt, 2002; Ball et al, 2008; Armon et al., 2017). Discourse has centred mostly around the use of translated assessments, monolingual norming groups, standard language variations in tests, cultural biased items, and decontextualized and unnatural test settings (Damico & Ball, 2008; Gutierrez-Clellen, 1996; Seymour, 2004). The main problem proposed is the reliance on

standardised tests that inherently penalize certain groups (Seymour, 2004; Damico et al., 2005).

Despite the need for assessments to be congruent with a child's linguistic experience in order to ascertain a comprehensive picture of language development (Patterson & Rodríguez, 2005; Armon-Lotem, 2011; Kohnert, 2010; Paradis, 2007, Haman et al., 2015), the assessments used are often those with which the clinicians are most familiar. Damico and Ball (2008) discuss the Goldman Fristoe Test for Articulation (2000) as being a good example of lexical cultural bias because it contains items that are not universal, such as a squirrel and Father Christmas. In an attempt to address bias, some test makers have created versions in other languages, such as The Peabody Vocabulary Test (Échelle de Vocabulaires en Images Peabody, EVIP, and Test de Vocabulario en Imágenes Peabody, TVIP), and MacArthur-Bates Communicative Development Inventories (available in many languages). Recently (2015), the COST Action IS0804 initiative created cross-linguistic lexical tests in thirty-four different languages (Haman, et al., 2015). There have also been attempts at addressing standard language variation bias. For example, in order to assess African-American children speaking a non-standard variation of English called 'African American English' ('AAE'), a dialect-neutral language test was developed by Seymour, Roeper, and De Villiers at the University of Massachusetts and the Psychological Corporation (Seymour, 2004). The Diagnostic Evaluation of Language Variation (DELV), the DELV Screening Test, and the DELV Criterion-Referenced Edition were also produced. Finally, the Woodcock-Cummins Bilingual Verbal Ability Test (BVAT-NU) aims to assess a bi- and multilingual child in all of his or her languages, both separately and in concert, which will be discussed in greater detail in Chapter 5. For a more detailed explanation of some of these assessments see Appendix 1.

#### **4.9 Assessment of Bi and Multilingual Children for Bi-SLI: Standard Language**

An important issue that affects the evaluation of what is typical or atypical language development is what is considered ‘normal’, as this is the benchmark for diagnosis. It is proposed that doctors and teachers are more likely to refer an English-speaking child with a strong regional dialect or who had language contact features in his or her language to a speech therapist (Hua & Wei, 2008, p. 155). Furthermore, they are also less likely to refer children to clinicians in regional areas where the children’s language has dialectal variation (Hua & Wei, 2008, p. 155) due to an assumption that language issues are related to non-standard or non-native varieties. In other words, when a person’s ability to communicate deviates from what the receiver regards as ‘normal’ in terms of phonological, lexical, syntactic and discourse features, it is often suspected to be a disorder (Wei, et al., 2005, p. 194).

#### **4.10 Assessment of Bi and Multilingual Children for Bi-SLI: Non-Standardised Assessment Approaches**

Patterson and Rodríguez (2005) suggest using a sociolinguistic framework that supports how the assessment process is carried out. Firstly, it is recommended that when assessing a bi- or multilingual child, a complete family history should be established, parent perceptions of speech and language are noted, and an account of which language a multilingual child uses in different settings, domains and with different people is recorded. Secondly, observations or field notes on a child’s language competence are suggested, as are

collecting language samples. Patterns of language use should be analysed and explained with bilingual and multilingual influences, and cultural and linguistic variables should be kept in mind. Finally, other means should be used to investigate language impairment, such as tests of child's capacity to learn (Crutchley, 1999; Pena & Iglesias, 1992), dynamic assessment (Patterson & Rodriguez, 2005) and evaluations of processing and working memory (Bishop, 1997; Leonard, 1998).

To summarise, bi- and multilingual children are not homogenous groups but are becoming increasingly complex. As discussed previously, they are subject to other variables, such as migration factors and attitudes that make establishing typical and atypical language acquisition challenging. In the next chapter, I will turn my attention to the pilot study that aims to investigate the language proficiencies of a small group of transient multilingual children who are being educated at an international school in order to discuss typical language development factors for this group.

## **CHAPTER 5: A Study of the Typical Language Development of Young Transnational Multilingual Children at an International School**

In this chapter, the research design for a pilot project that aims to record and discuss the verbal language abilities of a group of young multilingual children at an international school in Switzerland is presented. This research was conducted between March and June of 2017. The results are presented in Chapter 6, and the methodology and findings are then discussed and critiqued in Chapter 7.

### **5.1 Research Design**

#### ***5.1.1 Background***

International schools throughout the world promote themselves as educational institutions that can support transnational families who are often ‘on the move’. Many international schools are private facilities that often sit outside the national educational systems in the countries in which they are located. The largest accreditation body for international schools is the International Baccalaureate (IB). As of 2020, it lists 5260 IB accredited schools around the world, approximately half of which are classified as ‘private schools’. Thirty-five percent of international IB primary schools are located in Europe, with 77.4% of these in Turkey, Germany, Russia, Spain, Italy, Norway, Switzerland, Poland, Sweden and the UK. Switzerland has fifteen international IB primary schools. Ninety-five percent of the IB primary schools worldwide have English as the language of academic instruction. It is important to note that these numbers represent only the schools with the IB accreditation; there are several international schools that run other educational programmes

as well (that is to say, the term 'international school' is not interchangeable with 'IB school'). (All statistics taken from IB, 2020.)

Due to the fact that they can provide educational continuity during times of familial transience, international schools often have significant populations of children with complex language and educational histories. However, much of the academic discussion on typical and non-typical language development of multilingual children has been conducted in state bilingual immersion schools with stable or settled immigrant children whose first or second languages are spoken in the local areas in which they live and/or are the national languages of countries in which they are settled. Moreover, much of the research literature and discussion on school mobility overlooks transnational children from high-SES groups or expat communities. There is currently little academic research into the language acquisition and academic achievement of multilingual children from high-SES families whose home language(s) and school language(s) are not used locally or nationally, a lack discourse that is potentially isolating the educators, speech and language therapists and educational psychologists that are working with these children.

### ***5.1.2 Rationale***

A major challenge facing educators, speech and language therapists, and educational psychologists working with multilingual children who are educated in international schools is how to recognise if these children's linguistic behaviours in their school language and/or additional languages are typical or atypical. The challenge has been identified because these children often have complex multilingual backgrounds and complicated educational trajectories. In the initial stages of designing this research project, I consulted speech and language therapists, and educational psychologists in central Switzerland, who explained the

difficulties they often face assessing and diagnosing multilingual children referred to them by schools with similar populations to the group used in this research project.

Due to a lack of academic research in this area, educators, speech and language therapists, and educational psychologists working with multilingual children at international schools are having to refer to discourse that has focussed on stable or settled bilingual migrants, and/or low-SES migrant children, in order to support them in their work with transnational multilingual children from high-SES backgrounds educated in international schools. As a result, complex multilingual children at international schools are not represented in the discourse that is critical to prevent them from being either over- or under-identified for Developmental Language Disorder.

This research project aims to tackle these issues by investigating the language proficiencies of a small group of transnational multilingual children who are being educated at a private international school. The purpose of the project is to provide language assessment data and discussion on a small group of children from such an environment. The research as presented is a pilot project, but, as I will discuss in Chapter 7, there is potential for it to be replicated with a much larger number of participants with reasonable amendments to the methodology presented in this chapter. As this research data is collected from such a small number of participants, the research findings presented here are only intended to encourage improvements and elicit further discourse and research.

### ***5.1.3 Aims***

In order to understand the typical and atypical language development of transnational multilingual children from high-SES families in international school settings, a small research project was designed. The aim of the pilot project was to investigate the typical

language proficiencies and experiences of young multilingual children in an international school in Switzerland using two methods. First, a comprehensive language test that could assess the children in all of their languages was necessary in order to obtain data on each child's ability in each language, as well as their language ability when two languages were combined (bilingual ability) and their ability when *all* of their languages were combined (multilingual ability). Second, a method of obtaining detailed information on each child's family situation, educational history and linguistic development was needed not only to aid the interpretation of the language data obtained from testing, but also to understand the common experiences of this group of children. It is important to note that the aim of the pilot project is not to present data that is immediately generalisable, as this is not possible given the small number of participants. Instead, the rationale behind obtaining data from this pilot group is to suggest possible areas that a larger research study could investigate more, and to ameliorate the design for future attempts in order to make it, for example, more efficient and/or accurate. Above all, perhaps, it is hoped this research project will provoke discourse and further study that will be useful to researchers interested in the typical and atypical language development of transnational multilingual children in international schools.

#### **5.1.4 Objectives**

The objectives of this research all apply to a small group of transnational multilingual children, all of whom are educated in an international school. The objectives are:

- to measure the *verbal language abilities* of the child participants in each of their languages using a standardised test;
- to measure the overall *bilingual* verbal language abilities of the child participants by comparing bilingual combinations of their three languages from a standardised test;

- to measure the overall *multilingual* verbal language ability of the child participants by combining their language performances from a standardised test;
- to present different results using the different test scoring possibilities using the standardised test selected;
- to measure and compare the performance of the child participants within the group;
- to present and compare average results for the child participants;
- to identify common experiences of transnational multilingual children and their families, as reported by the child participants' parents;
- to observe any correlation between data from the standardised test and data from parent interviews;
- to identify further areas of research for transnational multilingual children in international schools; and
- to critique the research methodology in order to identify areas for improvement.

### **5.1.5 Hypotheses**

Based on the analysis of existing research on multilingualism, the working hypotheses for this project are:

- The child participants will obtain test results that fall within the standard deviation ranges or below the standard deviation ranges in each of their languages. Such results would be classified as 'average' or 'below average'.
- The child participants will obtain higher test results compared to the single language results when language results are combined to create bilingual results.
- The child participants will obtain higher test results compared to the single language results when all the language results are combined to create multilingual results.

- The child participants will perform significantly better on some tests within the standardized test than on other tests.
- Trends will emerge from the topics discussed in the parent interviews.
- There will be a significant correlation between familial language practices and child participant test performance.
- There will be a strong correlation between exposure to a language and performance in that language.

### ***5.1.6 Participants***

There were two groups of participants that were the focus of this research project: young children, referred to as ‘child participants’, and the parents of the young children, referred to as the ‘adult participants’. Inclusion criteria was created to evaluate who could participate in the project (see Table 5) and was deliberately restrictive to ensure the participant group was as similar as possible given the small number of participants. The decision to have young child participants, (i.e. between the age of four to eleven) was based on the idea that it is usually during these years that children are referred to speech and language therapists or clinicians if their language skills are evaluated as developing atypically. All the participants in both groups had to be mentally capable, and project participation was voluntary.

**Table 5:***Inclusion Criteria*

Inclusion Criteria for Child Participants	Inclusion Criteria for Adult Participants
<p>Child participants have to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> be aged between five and eleven years old;</li> <li><input type="checkbox"/> regularly speak, or have regularly spoken, three or more languages and have been exposed to each of these languages for more than a year;</li> <li><input type="checkbox"/> be verbally proficient in the three or more languages, but it is not necessary for the child participants to have any form of literacy in any of the languages;</li> <li><input type="checkbox"/> have been exposed to English for a minimum of one year at the time of language testing;</li> <li><input type="checkbox"/> speak languages from this list: Arabic, Chinese, English, French, German, Haitian Creole, Hindi, Italian, Japanese, Korean, Polish, Portuguese, Russian, Spanish, Turkish, and Vietnamese; and</li> <li><input type="checkbox"/> be enrolled at the international school where the research is to take place when they are tested.</li> </ul>	<p>Adult participants have to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> be legal guardians or parents of a child participants;</li> <li><input type="checkbox"/> be available and willing to take part in two separate interviews at the international school;</li> <li><input type="checkbox"/> consent to their interviews being recorded using an audio recording device and to the information they provide being used in this research project; and</li> <li><input type="checkbox"/> disclose if their child has any diagnosed or suspected speech and language disorders, vision problems, or hearing issues.</li> </ul>

**5.1.7 Location**

An international IB school in Switzerland was located. Permission was obtained by the international school director for the research project to take place in the school and with members of the school community (parents and students). Students' parents were informed about the research project through normal school communication channels, which were emails, virtual learning environment group notices, presentations and newsletters. Adult participants who wanted to participate with their children contacted the test organiser and they were evaluated using the inclusion criteria (see Table 5). Adult participants were sent information about the research and the research consent form before taking part (see Appendix 2). It is important to note that because of the age of the child participants and because the adult participants were parents or legal guardians of the child participants, only written consent from the adult participants was obtained. However, more discussion on how

consent to participate was obtained from the child participants during the testing process can be found in sections 5.1.11 and 5.1.13 of this chapter.

### **5.1.8 Language**

The research project's main language of communication was English, the *lingua franca* for all the participants at the international school. Even though English was the main research project language, information on the research project was available in other languages on request, as were translators. Moreover, all the language testing in languages other than English was conducted in the language of that test.

### **5.1.9 General Project Design**

The research project was designed to be a mixed-methods single-centre research project. The research was specifically designed for use in an international educational context. A mixed-methods approach was used in order to enable an exploratory and multi-dimensional method that would match the complex educational and linguistic diversity of the participants. It was hoped that a mixed-methods approach would enable a deeper understanding of the experiences of multilingual children in international schools, compared to quantitative data alone.

The data collection was divided into the three separate stages outlined below. All three stages were carried out between April 2017 and June 2017. More detail about each stage can be found in section 5.2.

*Stage 1: First parent interview.* Interviews were organised on dates and times that were convenient for both parents and interviewer (see Appendix 3 for dates and times of

interviews). Parents interviews took place in a meeting room at the school and lasted approximately sixty minutes. The first parent interviews followed a set structure (see Appendix 4). The interviews were recorded using a digital audio recorder, stored as mp3s, and then transcribed (see Appendix 5 for interview transcriptions and section 5.2.1 on approach to the analysis of interview transcripts).

*Stage 2: Child multilingual language testing using the Bilingual Verbal Ability Test-Normative Update (BVAT-NU).* After the first parent interview was conducted, the language testing was organised with the child's primary school teacher. Child participants were given BVAT-NU language tests in their different languages with bilingual ancillary examiners. Test administration time was approximately thirty minutes per language version. The results of each child participant's language test were then entered into the BVAT-NU *Scoring and Reporting Program of the BVAT* and a scoring report created (see Appendix 6 for individual performance results). The scores were then entered in an electronic spreadsheet for analysis.

*Stage 3: Second parent interview.* After results had been generated by the BVAT-NU *Scoring and Reporting Program of the BVAT*, the adult participants participated in second semi-structured interviews. First, their child's BVAT-NU test results were shared and the scoring explained. Second, parents were asked if the results were expected and if there was anything else they wished to share about their child's language learning. The second parent interviews were shorter than the first, and lasted approximately forty minutes. Like the first interview, the second took place at the international school (see Appendix 3 for the dates and times of the second interview). These interviews were also recorded using a digital audio recorder and

stored as mp3s. Interviews were transcribed (see Appendix 5) ready for analysis (see section 5.2.1 on approach to analysis of interview transcripts).

#### ***5.1.10 Ethical Considerations***

The research project centres around the participation of young children. As young children are classified as vulnerable and cannot give informed consent, the research design and data collection was designed in accordance with the principles outlined in the current version of the Declaration of Helsinki (DoH), the Essentials of Good Epidemiological Practice issued by Public Health Schweiz (EGEP), Swiss Law and the Swiss regulatory authority's requirements as applicable. The *Ethikkommission Nordwest- und Zentralschweiz* (EKNZ) was consulted during the design stages of the research.

#### ***5.1.11 Safeguarding and Child Ethics***

The child language testing using the BVAT-NU was administered by Lorna Greenall, research designer and author of this thesis. When the BVAT-NU tests were administered in languages other than English, I supervised the bilingual ancillary test administrators at all times, who conducted the test in different languages. As I am employed to work with children at an international school, I already have the enhanced criminal records checks that deem me to be safe to work with children. In addition, I took the Training and Resources in Research Ethics Evaluation (TRREE) Good Clinical Practice training module to ensure I had an understanding of my responsibility for the safety and well-being of the child participants in this research. All the ancillary test administrators were made aware of the ethical, data protection, and confidentiality issues of this research project. At no time were any ancillary test administrators left unsupervised with the child participants.

The research project was designed to reflect general procedures and practices that occur at the international school when a child is given a standardised test. As an employee at the international school, I am a known and trusted individual for the adult and child participants who took part. As a result, any stress to the child participants connected to taking a standardised test was reduced. In order to decrease the inherent tension of taking a standardised assessment, the BVAT-NU tests took place in a suitable classroom in the international school which the children were already used to, and during the school day. In order to reduce any disruption to the child participants' education, I consulted the child participants' teachers to negotiate that the BVAT-NU test took place at times that would have the least educational impact on the child participant. I acknowledged that some children would have questions relating to why they were doing the BVAT-NU test or may display anxiety towards being tested. I built additional test time into the project so that I was able to explain the tests in a way they could understand for their age, they could ask questions about the test, and I could get their consent to participate and make it clear to them that they could stop the test at any time. On a few occasions, the BVAT-NU tests had to be rescheduled: once because a child was on a school trip, once because a child was absent from school, and once because the child wanted to reschedule.

#### ***5.1.12 Confidentiality***

The research project was designed to protect the confidentiality of the child participant. No child participants' names were used on any BVAT-NU test score sheets, or when inputting the scores into the BVAT-NU *Scoring and Reporting Program of the BVAT*. Each child was given a participant code, which was known only by me and stored in a password-protected folder on my computer. Adult participants were also given the same

research project code as their child. When the ancillary examiners filled in the BVAT-NU test score sheets, at no time were they able to see how correct or incorrect answers related to actual achievement in the test. The BVAT-NU test score is designed so that only the test administrator using the *BVAT-NU Scoring and Reporting Program of the BVAT* can know test results and achievement. Only I used the *BVAT-NU Scoring and Reporting Program of the BVAT*. The results of the BVAT-NU tests were only discussed with the child's parents or legal guardians who had agreed to participate in the research project. In order to ensure that participation in the research project would not have a lasting impact on the child participants' lives, all data stored that links the participant code to the child's name will be destroyed. Also, no references will be made to actual participants or the name of the school to ensure anonymity and protect the confidentiality of all those participating in the research.

#### **5.1.13 Data Protection**

By assigning codes to each child participant and their related adult participants, data remained anonymous and confidentiality was maintained throughout. Explicit reference to confidentiality was made to the child and adult participants throughout the research project. An explicit agreement concerning the way in which information obtained during the duration of the research project would be used was included in the consent form. All data, record keeping, and consent forms were handled by me. Codes were used instead of names on the child language tests, interview recordings, data analysis spreadsheets, transcripts and presentation and discussion of data in this thesis. All electronic data was stored on an encrypted and password protected USB stick and laptop computer owned by me. All paper data was handled and disposed of according to Swiss data protection laws. On the completion of this thesis, all uncoded child and adult data related to this project will be destroyed.

#### ***5.1.14 Benefits of Participation***

The research project has several potential direct benefits for all participants. Adult participants were informed about the related child participants' test results in the second interview conducted, so they received a detailed overview of their child's multilingual language development. With this information, parents could make informed decisions about their child's future schooling and familial language practices that would directly benefit their children. The research project also has group benefits for this group of high-SES multilingual children in international schools as this thesis aims to address the lack of academic discourse on the language development of this group of children.

#### ***5.1.15 Impartiality***

I am confident that there was no conflict of interest, and that I remained independent in my role as researcher during the project. I had no direct teacher-student relationships with any of the child participants at the time of testing, nor any social relationships with any of the adult participants who took part.

### **5.2 Detailed Research Plan**

#### ***5.2.1 Parent Interviews***

The first recorded interviews were conducted with the child participants' parents before BVAT-NU testing began (see Appendix 3). A semi-structured interview approach (see Appendix 4 for interview question outline) was followed and no time limit was placed on the length of each interview, although most interviews were approximately 60 minutes. The decision to supplement the child testing data with interviews was due to the fact that

qualitative research can enable the emergence of key issues that can help understand a phenomena in greater depth (Hesse-Biber & Leavy, 2006). A semi-structured interview approach was chosen because this type of approach has been found to elicit more personal accounts from participants, which can then allow for a deeper understanding of the phenomena being researched (DonYei, 2007, p. 136). An interview overview of topics covered can be seen in Table 6 and the semi-structured interview questions for the first interview are included in Appendix 4). The inclusion of a second parent interview was originally included as a language test result meeting where the results of their child's language testing could be presented, so the child and parent would be directly benefiting from the research (see section 5.1.10 on child ethics). However, the second interview was helpful as it enabled the child language test results to be an anchor for further discussion into familial language practices. As a result, the second interview was more open-ended, and followed a structure that began with an explanation of the BVAT-NU test results, followed by a general question to record opinions, and then questions relating to any points from Interview 1 that required further exploration (see Appendix 5 for transcripts of both interviews).

**Table 6:**

*Interview Foci*

<p><b>Interview 1</b> (see Appendix 4 for full list of questions)</p>	<ul style="list-style-type: none"> <li>● Family Information regarding mother's and father's and other caregiver's nationalities, families, education, employment, languages, and siblings' education, languages</li> <li>● Other relatives and family friends' languages</li> <li>● Child information regarding countries lived in, language exposure, education, language use, language preferences, language abilities in different languages</li> <li>● Parental prediction of child's BVAT-NU performance</li> </ul>
<p><b>Interview 2</b></p>	<ul style="list-style-type: none"> <li>● BVAT-NU explanation of results</li> <li>● Parental views of BVAT-NU results and discussion of any points from Interview One that required more exploration</li> </ul>

Despite only seven child participants and six adult participants taking part, enough information was obtained, and key themes emerged to reach some data saturation points. The discourse on using the data saturation approach with interview data states that meaningful themes and interpretations can emerge early on, and they can occur with as few as six interviews (Mason, 2010; Charmaz, 2006; Guest et al, 2006, Brod et al., 2009). The reason given is that if a participant group is homogenous, the research small in scope, and the researcher is familiar with the research context and participants, as Mason (2010) puts it, ‘the sample size becomes irrelevant as the quality of data is the measurement of its value’ (2010; p. 10), a sentiment also supported by Dibley (2011), who also stresses the quality of data over its quantity. Mason (2010) also suggests that ability to obtain quality interview data is directly associated with the relationship between interviewer and participant (Mason, 2010). The influence of the interviewer/researcher on the interviewee and on data which is collected is also greatly discussed (Boyce & Neale, 2006; Talmy, 2010; Brod et al., 2009). Fusch & Ness (2015) highlight the role of the interviewer:

the researcher is the data collection instrument and cannot separate themselves from the research...[he/she]...operate between multiple worlds which engaging in research, which includes the cultural world of the study participants as well as the world of one’s own perspective. (p. 1410)

With such a small participant group and the interconnectedness of the researcher and the participants, understanding how one’s personal lens, biases, values and ideologies are omnipresent and can affect data collection and data interpretation is critical. (A more profound critique of methods and possible biases follows in Chapter 7.)

Approaches to analysing interviews in qualitative research is much discussed (Talmy, 2010; Briggs, 2007b; Lincoln & Denzin, 1994; McCormack, 2000). One of the main

criticisms is how collected data is selected and presented for analysis and discussion (Block, 2000; Briggs, 2007b; Richards, 2009; Talmy 2010). The traditional organisation of interview transcript data into themes is criticised because when data is extracted from its original text for analysis it becomes deconstructed and decontextualized. Talmy (2010) argues that the possibility for more detailed, deeper and personal understanding of the data can be lost when this approach is used. Talmy recommends creating an analytical tool that enables data to be organised in a way that is supported by quotations from transcripts so that the interviewees truths, facts, attitudes, and beliefs can still be represented in the analysis (p. 132).

In total, fourteen interviews were conducted and recorded as part of this research project, totalling approximately twelve hours. Each interview was transcribed manually and all interview transcripts were kept as whole interviews (see Appendix 5 for full transcriptions). Each interview transcript was also analysed and extracts identified so further analysis could take place and trends could emerge. Using the original categories which had been created as part of the semi-structured interview 1 design (see Table 6 and Appendix 4), the transcripts were read and extracts that correlated identified. These extracts were then inputted into an electronic spreadsheet with their corresponding participant code, and then coded by theme and topics discussed within the extract. The transcripts were then analysed again and extracts that did not fit within the original categories were also inputted into the electronic spreadsheet and coded. This step ensured unexpected topics to be identified. The same method of transcribing and analysis was repeated for the second parent interview. While analysis of the interview transcripts was mostly manual, the use of an electronic spreadsheet meant that the interview extracts could be filtered and organised into different categories, topics, themes, and participants, making the overall analysis easier. Themes and topics that emerged from the interview analysis are presented and discussed in Chapter 6 and 7.

### **5.2.2 BVAT-NU Test Administration**

The Bilingual Verbal Ability Tests-Normative Update (BVAT-NU) measures an individual's verbal ability in English and calculates an individual's bilingual verbal ability. It is a standardised, normed, individually-administered test that is suitable for clinical assessment, pre-referral assessment in schools and research purposes (Muñoz-Sandoval et al., 1998). The BVAT-NU was developed to address inequality of access to specialist learning services due to the fact that assessment tools often do not take into account the linguistic discourse on typical and atypical language development of multilingual children. The BVAT-NU literature states three practices that are common among educators and clinicians that exacerbate the issue of equity for culturally diverse children. First is the delaying of formal testing of a bi- or multilingual child until one of his or her languages is evaluated as being proficient enough to be assessed in. Second is the administering only non-verbal tests, hence not including verbal ability tests to bi- and multilingual individuals due to the fact that such testing in multiple languages is not possible. Third is assessing a bilingual student informally in English, and then his or her additional languages and comparing results (Muñoz-Sandoval et al, 1998, pp. 7-8). The BVAT-NU test makers state that when interpreting any standardised test results, there are many variables that need to be considered, such as the assessment norms, whether the assessments are academic in focus, the amount of language exposure to the languages being assessed, and the extent to which the child's linguistic preference or development is domain specific, as some domains can be better developed than others (ibid, p. 8) .

The BVAT-NU aims to 'overcome the problems of English-only testing' for bilingual and multilingual individuals as it enables clinicians to determine whether students 'have the

conceptual knowledge assessed by particular items in either of their two languages' (ibid, p. 5). The test makers claim that using the BVAT-NU in schools to establish a child's full language repertoire can address the problem of underrepresentation and overrepresentation of bilingual children in special education support programmes (ibid, p.6). Establishing a child's full language repertoire is critical because evaluating a bi- or multilingual child's verbal ability in one language can underestimate an individual's overall verbal cognitive ability (ibid, p.6).

The BVAT-NU is theoretically underpinned by the notion that a bi- or multilingual individual's linguistic competencies are based on the dynamic relationship of these languages when combined. It is based on the idea that conceptual knowledge and cognitive skills can be higher in one language than the other, and so to achieve a true picture, competencies in 'language', conceived of as a whole system, must be assessed, as opposed to in only one specific language within a whole system, what the BVAT-NU refers to as 'Total Language Proficiency' (1998). In addition, the BVAT-NU is influenced by Cummins's Common Underlying Proficiency theory of language and his Cognitive Academic Language Proficiency (CALP) work. The theoretical underpinning of the BVAT-NU, is, therefore, a holistic view of a common underlying language proficiency that aligns with a Dynamic Model of Multilingualism rather than a fractional view; it is specifically because of this underpinning that it has been chosen to guide this research.

The BVAT-NU manual states that the test can be used in research because it has a 'range of interpretive options' (Muñoz-Sandoval et al., 1998, p. 6). Minami (2005) used the BVAT-NU as a screening measure in Minami's research on the narrative development of English-Japanese bilingual children aged six to twelve in San Francisco Bay, USA. The BVAT-NU was used as a screening measure to establish balanced bilingual verbal ability

(Minami, 2005, p. 1619). Minami deviated from the recommended administration of the test (as do I, which is presented below) in order to reveal to what extent the children in their research were balanced bilinguals (Minami, 2005, p. 1620). Fernandez et al. (2014) also used the BVAT-NU in their research into bilingualism and enhanced neural inhibitory control in bilinguals. They used the oral vocabulary subtest of BVAT-NU (Part A: Synonyms and Part B: Antonyms) in English and Spanish for all their bilingual participants as a method of qualifying their language proficiencies in both languages, which was necessary to meet the inclusion criteria. The conversion from raw scores into results is done using the *BVAT-NU Scoring and Reporting Program of the BVAT*.

The BVAT-NU combines verbal-cognitive testing in one primary language (English) with verbal-cognitive testing in one or more of the other seventeen languages contained in the test to create one psychometric and standardised test. The recommended administration of the test is as follows. First, the English version of the test is administered to the test taker in the order of each subtest. The starting item for each subtest correlates to the test takers' age. The correct and incorrect test items from the English version of the test are recorded on the test score sheet while the test is being administered. Each test section has a specific number of test items a testee can score incorrectly in a row before the subtest is stopped. The number of correctly answered test items in each section is referred to as the 'raw scores' and is recorded on the test sheet at the end of each subtest. The English version of the test is complete once all three subtests have been done. Secondly, the BVAT-NU is administered in the child's next language. It is recommended that a fluent speaker of the language administers the test, so bilingual ancillary examiners should be used when needed (under supervision). The administration of the test in the additional language differs from the administration of the test in English. The tester only selects the items that the testee answers incorrectly or does not

know when tested previously in English, and asks these questions in the additional language. If the testee answers the incorrectly answered items in English correctly in the additional language, this is marked on the score sheet. This procedure continues with all subtests until all items that were incorrectly answered or unknown in English have been retested in the additional language. Importantly, the testee must still complete a specific number of items correctly in a row to finish a subtest. The items not known or answered incorrectly in English but known in the additional language are referred to as ‘gain scores’. If a testee has another additional language, the tester selects only the test items that the testee answered incorrectly or are unknown in both English and the other language previously tested. The testee is then given these test items in the next language and any correct answers are noted as ‘gain scores’.

In order to obtain additional data about performance in each language as well as performance when languages are combined, the test administration procedure was adapted. In the adapted procedure, each child participant completes each subtest fully in English and then completes each subtest again in his or her other languages. The adapted procedure enables raw scores to be obtained for each child in each of his or her languages. These raw scores are entered into the *BVAT-NU Scoring and Reporting Program of the BVAT* for each language to obtain a variety of scores (see section 5.2.3). In order for gain scores to be identified using this method, every test item answered correctly or incorrectly is cross-checked in each language tested to identify which items are answered incorrectly or unknown in English but answered correctly in another language or languages tested. Once gain scores are identified, the standard procedure of entering raw and gain scores into the *BVAT-NU Scoring and Reporting Program of the BVAT* can be followed.

Raw and gain scores are entered into the *BVAT-NU Scoring and Reporting Program of the BVAT*. The *BVAT-NU Scoring and Reporting Program of the BVAT* creates a report

which shows scores achieved in the base language of the test and scores when the languages are combined, called the ‘Bilingual Verbal Ability score’ (BVA). The BVA represents the combined verbal ability across different domains of a child’s English language and additional language. By comparing the BVA results with only the L1 (English) results, it can be ascertained if a child’s verbal cognitive abilities are greater when we consider both languages as one language system, as opposed to separate languages working in isolation. In the BVAT-NU manual, there are guidelines for administering the BVAT-NU when a subject speaks two non-English languages.

The BVAT-NU measures an individual’s verbal cognitive ability with three tests: Picture Vocabulary, Oral Vocabulary and Verbal Analogies (see Table 7). Results from these three tests can be combined using the BVAT-NU *Scoring and Reporting Program of the BVAT* to create a broad-based measure. All three subtests tests have seventeen corresponding language tests with corresponding answer sheets. The BVAT-NU takes into account items that are not translatable into some other languages, and these items are removed from a language test when this is the case and this is indicated in the answer sheet.

**Table 7:**

*BVAT-NU Measures of Cognitive Ability (see Muñoz-Sandoval et al., 1998, p. 2)*

Tests	Skills
1. Picture Vocabulary (PV)	Primarily an expressive language semantic task at a single-word level that requires naming a pictured object.
2A. Oral Vocabulary: Synonyms (OVs)	A receptive and expressive language task which measures knowledge of word meanings. This task requires retrieving a synonymous word association.
2B. Oral Vocabulary: Antonyms (OVa)	A receptive and expressive language task which measures knowledge of word meanings. The task requires retrieving an opposite word association.
3. Verbal Analogies (VA)	A receptive and expressive task which measures verbal reasoning. The task requires apprehending the analogous relationship between two words and retrieving a word to fit that same relationship to a third word

The BVAT-NU Picture Vocabulary test requires a participant to name a given picture taken from the easel test book. The BVAT-NU Oral Vocabulary test requires a participant to complete two parts: Part A: Synonyms and Part B: Antonyms. Once completed, both parts are combined to create an Oral Vocabulary test score. The BVAT-NU Verbal Analogies test requires a participant to comprehend and work out the association among words given and provide the administrator with a verbal response answer. There are both ‘basal’ and ‘ceiling’ rules for each subtest so the administrator knows which item to begin with and which item to end with. Test items for each subtest are administered in order using the easel test book until the child is not able to answer a specific number of items consecutively. When the child responds to an item, the responses (correct or incorrect/no response) are recorded on the BVAT-NU Test Record by the test administrator. Raw scores and gain scores for this subtest are entered into the *Scoring and Reporting Program of the BVAT* to create age-equivalent scores, standard scores, and CALP scores.

The BVAT-NU test includes a test procedure that enables an individual’s bilingual and multilingual verbal ability score to be calculated. Raw scores and gain scores from each subtest are necessary for the BVAT-NU *Scoring and Reporting Program of the BVAT* to be able to create Bilingual Verbal Ability (BVA) scores for an individual. The Bilingual Verbal Ability (BVA) score can be compared to the L1 (English) overall score, which is referred to as the Overall Verbal Ability (OVA) score. When administering the BVAT-NU in more than two languages, careful attention should be paid to the gain scores. If a participant does not know an item in L1 (English), but he or she does answer correctly in L2, it is one gain score. If a participant does not know an item in L1 or L2, but he or she does know it in L3, it is one gain score as well. However, if a participant does *not* know an item in L1, but he or she *does*

know it in L2 *and* L3, it remains only *one* gain score. The *Scoring and Reporting Program of the BVAT* combines the raw scores with the gain scores to produce Bilingual Verbal Ability (BVA) scores. In the BVAT-NU test procedure for testing a multilingual individual in two additional languages, any correctly answered items in the additional languages are combined to create the gain score, so the *Scoring and Reporting Program of the BVAT* produces a Bilingual Verbal Ability (BVA) score even though it is created using more than two language test results.

### **5.2.3 BVAT-NU Scoring**

The raw and gain scores were selected for inclusion in this research because in the BVAT-NU, the gain score, which is compared to an individual's raw score, is useful in comparing how a child participant's performance in the BVAT-NU in more than one language compares with his or her performance in English alone. It should be noted, however, that the use of raw score data to discuss individual language deficit is controversial. As McCauley & Swisher (1984) explain, 'individual errors represent only possible deficits and correctly answered items only possible competencies' (1984, p. 344). Specific item errors that were unknown or answered incorrectly are not discussed in this research; only how the gain scores compare with the raw scores is addressed.

The BVAT-NU age-equivalent scores are calculated for both the mean and median from a normative sample of a particular age group. Age-equivalent scores were selected for inclusion in this research because it is a scoring method often used by clinicians and educators to explain individual test performance of children to nonprofessionals, such as parents (McCauley & Swisher, 1984; Bennet, 1982; Maloney & Larrivee, 2007). Age-

equivalent scores have also been favoured in the past by academic researchers (see Maloney & Larrivee, 2007).

Despite the popularity of age-equivalent scores, they are not universally favoured and the measure has a history of controversy (Anastasi, 1976; Mehrens & Lehmann, 1987; Salvia & Ysseldyke, 1981). Age-equivalent scores from a standardised test specify an individual's performance to an equivalent year and month from the test norming process. This level of accuracy has been criticized because it does not allow for a performance range for a child (i.e. an expected average age range of performance between two ages), but instead pinpoints an individual's age-equivalent performance to an 'exact' year and month (Maloney & Larrivee, 2007), a degree of specificity that has been historically criticised as being 'psychometrically imprecise' (McCauley & Swisher, 1984, p. 342). An additional problem discussed concerning age-equivalent scores is that the extent to which a very young child scores higher or lower than his or her actual age can be more significant than for an older child (1984, p. 88). As McCauley and Swisher (1984) explains, 'an age-equivalent score that is six months behind an individual's chronological age may indicate a larger difference in actual test performance for younger test takers than for older ones' (p. 340). Finally, the method used by standardised test makers to create age-equivalent scores through norming is deemed insufficient because test creators do not always obtain enough data from enough samples to create age-equivalence scoring without some degree of estimation.

Despite these criticisms, age-equivalent score performance will be included in this research because they are so frequently used today due to the ease with which they communicate information to non-professionals. However, age-equivalent scores will be analysed with caution, and they will not be interpreted in isolation. In fact, it may be possible

to add to the critical discourse presented here by identifying if there was any age-equivalent performance trend in this group of child participants.

The BVAT-NU standard score scale is obtained from taking the raw scores and creating a score based on a mean of 100. Standard scores were selected for inclusion in this research because they are perceived to be less problematic than equivalent scoring, such as the age-equivalent scoring described in the previous section (Bennet, 1982). The standard deviation used in the BVAT-NU is fifteen, which means the test taker's performance sits within a range of normal expected performance. The BVAT-NU also includes extended standard scores from 0 to 200, so it has a greater range than some other standardised tests. As the BVAT-NU does not include interpretations for its standard scores, the MedFriendly (2020) interpretations will be used as a general guide to understanding the significance of a standard score (see Table 8).

**Table 8:**

*Standard Score and Interpretation (MedFriendly, 2020)*

Standard Score	Interpretation
130-155	Very Superior
120-129	Superior
110-119	High Average
90-109	Average
80-89	Low Average
70-79	Borderline
45-69	Inferior

The BVAT-NU test *Scoring and Reporting Program of the BVAT* is able to create Cognitive Academic Language Proficiency (CALP) scores by transforming Relative Proficiency Index scores into instructional zones that attempt to describe the extent to which a child participant would manage language demands in a formal school setting (see Table 9

below). CALP scores were selected for inclusion in this research because several international schools use this scoring when discussing a bi- and multilingual child's language proficiency in a school setting. In fact, school psychologists in the USA must now use CALP level scoring when assessing children who are not first language speakers of English; indeed, schools that fail to do so are criticised for being discriminatory (Olvera & Gomez-Cerrillo, 2011, p. 121).

**Table 9:**

*CALP Levels/Descriptions/Instructional Implications (adapted from Munoz-Sandaval et al., 1998:33)*

<b>CALP Level</b>	<b>CALP Level Description</b>	<b>Instructional Zones</b>
<b>6</b>	Very Advanced	Extremely Easy
<b>5</b>	Advanced	Very Easy
<b>4.5</b>	Fluent to Advanced	Easy
<b>4</b>	Fluent	Manageable
<b>3.5</b>	Limited to Fluent	Difficult
<b>3</b>	Limited	Very Difficult
<b>2</b>	Very Limited	Extremely Difficult
<b>1</b>	Extremely Limited	Nearly Impossible

### 5.3 Analysis

In the following chapter, the results of the BVAT-NU testing with the children and the interviews with their parents will be presented and discussed. Twenty-two language tests in English, Portuguese, French, German Italian, Russian and Spanish, were conducted with seven children (see Table 10 below). All children were first tested with the English version of the test, which is their current school's language of instruction. The English version of the test is referred to as performance in L1 in the discussion on the results and findings. Second, the children were tested with the other language versions of the test, which are their home languages and in one case a language of instruction at a previous school. The language

identified by the child's parent as the child's strongest language after English (L1) is referred to as L2 in the discussion on the results and findings. In this pilot group, the L2 happened to be the mother's first language in each case. The third language tested was identified by the child's parent as the child's other home language and is referred to as L3 in the discussion on the results and findings. In this pilot group, the L3 was not always the other parent's first language, but sometimes that of the nanny or an additional family member. One child participant had experienced schooling for a period of longer than a year in a language that was not his or her L1, L2, or L3. In this case, the language is referred to as L4 in the discussion. It is important to note, the language referencing L1, L2, L3, L4 do not literally describe the order in which these languages were learned; rather, they are a way of coding the base language of the test and the school language, which is L1 English, and the other languages known by the child participants and tested, (L2, L3, L4), 'ranked' according to the perceived strength of the language (according to parents).

**Table 10:**

*Pilot Group Child Participant Language Information*

<b>Child Code</b>	<b>Actual Age (years-months)</b>	<b>Sex</b>	<b>L1 (English)</b>	<b>L2 (Additional Language)</b>	<b>L3 (Additional Language)</b>	<b>L4 (Additional Language)</b>
B12	7-0	Male	English	Portuguese	German	-
G7	7-7	Female	English	French	Italian	-
G19	9-4	Female	English	French	Italian	-
B13	9-7	Male	English	Russian	French	-
B16	10-4	Male	English	French	Spanish	-
B6	10-6	Male	English	German	Spanish	-
B18	11-0	Male	English	Portuguese	French	Spanish
Average	9-3	-	-	-	-	-

All BVAT-NU testing was done between March and June 2017 (see Appendix 3 for specific dates), and the total BVAT-NU testing time was approximately eleven hours. The test results for each child were immediately inputted into the *Scoring and Reporting Program of the BVAT* as soon as the child participant had completed all the different language versions of the test. All the BVAT-NU scores discussed in Section 5.2.3 were transferred to electronic spreadsheets for further analysis. Interviews were also conducted during the testing period so that all the data could be collected within the same period. The total interview time was approximately eleven hours. Interviews were transcribed between March and August 2017, and the transcripts were analysed manually soon thereafter (see section 5.2.1 for discussion on analysis method). Despite this being a pilot study, it is hoped that the amount of data collected (not including analysis) will provide some useful insights that should help in the understanding of the typical (and atypical) language development of transnational multilingual children at international schools. Moreover, the execution of the test with this group of participants will serve as proof of the viability of the methodology, as well as highlight areas that may need to be improved before replication at a larger scale.

## CHAPTER 6: Pilot Study Results

In Chapter 6, the results of the Bilingual Verbal Ability Normative Update (BVAT-NU) multilingual language testing from seven child participants are presented and discussed. In addition, the findings from twelve interviews with the parents of the children who participated in the testing are presented and discussed.

The Bilingual Verbal Ability Normative Update (BVAT-NU) is a multilingual language test that contains three subtests. The first test, Picture Vocabulary, is an expressive language semantic test at single word level. The second test, Oral Vocabulary, is a mixed receptive and expressive task which measures knowledge of word meanings. The Oral Vocabulary test contains two further subtests: Test A Synonyms and Test B Antonyms. The results from Test A and B are combined to create the Oral Vocabulary results. The third test, Verbal Analogies, is a language reasoning task.

In this study, the test results of seven child participants in the BVAT-NU are presented and discussed in the same order as they were administered, which is English, the school language (L1), the perceived strongest additional language (L2), the other additional language (L3) and, for one child participant, another additional language (L4). All scoring, with the exception of raw scores and gain scores, were calculated by and reported using the BVAT-NU *Scoring and Reporting Program of the BVAT*. The following languages were tested: English, French, German, Italian, Portuguese, Russian, and Spanish. The BVAT-NU can present result data in a variety of different ways. In this chapter, result data for each test is displayed using age-equivalent scores, standard scores, Cognitive Academic Language Proficiency (CALP) scores, raw scores and multilingual gain scores. Each child's results for each of his or her languages in each test are listed, as are the group average results for each

BVAT-NU test (see sections 6.1-6.4). As only one child participant had four languages tested, his L4 results are presented, but not discussed or included in the calculation of his average score. However, when possible, his L4 results were included, such as when scoring multilingual gains, Overall Verbal Ability (OVA), and Multilingual Verbal Ability (MVA). The results for each child are presented and discussed as part of the pilot group as a whole. Individual child performance and discussion can be found in Appendix 6.

The BVAT-NU *Scoring and Reporting Program of the BVAT* also provides two additional overall score results. First, the results of an individual's Picture Vocabulary test, Oral Vocabulary test and Verbal Analogies test are combined by the *Scoring and Reporting Program of the BVAT* and reported as an Overall Verbal Ability (OVA) result for a language. Secondly, the *Scoring and Reporting Program of the BVAT* is able to produce a Bilingual Verbal Ability (BVA) result, which is created by comparing performance in one language with performance in additional languages tested. Overall Verbal Ability (OVA) results and Bilingual Verbal Ability results are presented and discussed. An additional result not included in the BVAT-NU programme is presented and discussed, which is the product of combining performance in all the languages to create Multilingual Verbal Ability (MVA) results. These results can be found in section 6.5 of this chapter.

In section 6.6 of this chapter results from interviews with the participants' parents are presented and discussed. Using the interview data, common characteristics of the group have been identified and are presented. In addition, common topics mentioned in the interviews are presented and accompanied by interview extracts (see section 5.2.1 for discussion on interview analysis).

The next chapter of this thesis (Chapter 7) addresses the possible relevance of the main findings from the BVAT-NU testing and interviews presented here. These are discussed

in relation to existing research (as outlined in the previous chapters), and potential new avenues for research are identified. Finally, the pilot research design and results are critically reviewed, suggestions are given on how potential flaws could be avoided in future iterations of this research, and a methodology for larger-scale replication of this researcher is proposed.

## 6.1 BVAT-NU Test 1 - Picture Vocabulary

### 6.1.1 Results: BVAT-NU Picture Vocabulary Age-Equivalent Scores (BVAT-NU PV-AE)

Age-equivalent scores are commonly used by clinicians and educators to describe how a child performs in standardised tests. It is a popular measure, often used in discourse on SLI/DLD, despite there being problems with this metric (See Chapter 5, section 5.2.3 for discussion). Age-equivalent scores are included here because it remains a commonly-used measurement, but these scores should be dealt with cautiously.

**Table 11:**

*BVAT-NU Picture Vocabulary Age-Equivalent Results (BVAT-NU PV-AE)*

Child Code	Actual Age (years-months)	Age-Equivalent Score (years-months)			
		L1	L2	L3	L4
B12	7-0	10-10	3-8	5-9	-
G7	7-7	7-6	5-2	2-7	-
G19	9-4	14-2	14-2	9-4	-
B13	9-7	13-3	8-1	9-4	-
B16	10-4	12-4	12-4	6-11	-
B6	10-6	12-4	12-4	5-9	-
B18	11-0	15-2	6-11	14-2	8-9
Average	9-3	12-1	8-2	7-2	-

Table 11 shows that most of the participants obtained higher age-equivalent scores in the English test (L1) than their actual ages. Only one child, G7, scored lower than her actual age, but that was a score difference of only one month. The L2 results were less conclusive

when compared to the L1 results. When the child participants did the test in the L2s, four out of seven children obtained results that were below their actual age at the time they took the test. Three children maintained results above their actual ages in the L2 test. There is also variation in the results of this test in the L3. The results show that five out of seven children scored below their actual age at the time of testing. One child (B18) obtained an age-equivalent score above her actual age and one child scored a result the same as her actual age (G19). Table 11 shows the pilot group average age-equivalent score for the English test (L1) is two years and ten months higher than the group's average actual age. The average actual age for the pilot group is nine years and three months ('9-3'), and the average age-equivalent performance in the L1 for this test is twelve years and one month ('12-1'). The average age-equivalent score in the L2 was one year and one month lower than the average actual age. The average age-equivalent score in the L3 was even lower than the L2 result and was two years and one month lower than the group's average actual age of 9-3. To conclude, nearly all seven children in this pilot group scored higher age-equivalent scores than their actual ages in the Picture Vocabulary test when the test was administered in English. Their age-equivalent performances for this test in the L2 and L3 were more mixed. The group average score shows a steady decline in performance with age-equivalent scores in English being higher than the average actual age, followed by lower than the actual age scores in the L2 test, and even lower in the L3 test.

### **6.1.2 Results: BVAT-NU Picture Vocabulary Standard Scores (BVAT-NU PV-SS)**

The standard score is obtained by the administrator entering a test participant's raw scores into the *Scoring and Reporting Program of the BVAT*. The standard score scale is the same used in most standardised tests with standard deviations. For more information on this,

see Chapter 5. The *Scoring and Reporting Program of the BVAT* can only produce standard scores for each test administered in English. It is not possible for the *Scoring and Reporting Program of the BVAT* to create a standard score for each test for languages other than English. The pilot group child participants' standard score results in English (L1) were produced using the normal test procedure as described in the Comprehensive Manual. In order to obtain standard scores for the additional languages (L2, L3, L4), a non-standard procedure was used. The pilot group child participants' raw scores were entered into the *Scoring and Reporting Program of the BVAT* in the section where the reporting sheet calls for the English raw scores. A standard score can then be created by the *Scoring and Reporting Program of the BVAT* for languages other than English. The creation of standard scores across languages is not standard-procedure for the test, which normally creates a standard score only for the English version. The reason for calculating standard scores in each language is so that individual proficiencies in each language can be examined and compared, as well as combined with English. A similar approach has been used by other researchers using the BVAT-NU to establish the language proficiencies of children (see Chapter 5, section 5.2.2 for more discussion on this point). As a non-standard procedure was used, the results should be interpreted cautiously, as there may be some degree of error introduced, for example, by the possibility of cultural bias in the selection of images.

**Table 12:***BVAT-NU Picture Vocabulary Standard Results (BVAT-NU PV-SS)*

Child Code	Picture Vocabulary Standard Results (BVAT-NU PV-SS)			
	L1	L2	L3	L4
B12	124	74	93	-
G7	101	88	46	-
G19	123	123	100	-
B13	117	91	98	-
B16	110	110	82	-
B6	108	108	74	-
B18	117	79	113	88
<b>Average</b>	114.3	96.1	86.6	-

Table 12 shows that every child participant in the pilot group obtained standard scores that fall within or above the standard deviation of fifteen (see Table 6 for more standard scoring and descriptions) in the English version (L1) of this test. In the L1 version of this test, five out of seven child participants achieved standard scores that can be described as within a ‘high-average’ range, and the remaining two child participants achieved standard scores that are described as within the ‘superior’ range. In the L2 versions, most child participants maintained standard scores that fell within or above the standard deviation range. Only one child participant (B18) scored a low standard score in the L2 version; this standard score falls outside of the standard deviation and is described as a ‘borderline’ score. More child participants scored standard scores that are considered low in the L3 versions of this test when compared to their performance in the L2 versions. Four out of seven child participants maintained a standard score that fell within an average standard deviation, but one child (B6) had a low standard score, which is described as a ‘borderline’ score, and one child (G7) had

an even lower standard score, which is described as an ‘inferior’ score. Interestingly, the child participants’ individual standard score ranges between the highest standard score obtained and the lowest standard score obtained for each language differed significantly. The standard score point range between the highest score achieved and the lowest score achieved by the child participants in the English version was 23 points. The standard score point range between the highest score achieved and the lowest score achieved by the child participants in the L2 versions was 40 points, which is almost double the L3 range at 23 points. The standard score point range in the L3 versions was even greater at 67 points between the highest score achieved and the lowest score achieved by the child participants. The point range scores for each language show how the child participants’ standard scores were more similar in L1 compared to L2 and L3, where greater ranges of scores were recorded (the widest range in L3). Table 12 shows that the pilot group’s average standard score in this test in, and in all the languages tested, fell within one standard deviation. The pilot group’s highest average standard score was obtained in the English version of the test and is described as a ‘high average’ score. The second highest average standard score was in the L2 versions, and is described as an ‘average’ score. The lowest average standard score was in the L3 versions, which was classified as a ‘low’ average score.

### ***6.1.3 Results: BVAT-NU Cognitive Academic Language Proficiency Picture Vocabulary Scores (BVAT-NU PV CALP)***

The Cognitive Academic Language Proficiency (CALP) scoring system contains five levels that relate to an individual’s language proficiency in academic situations, such as formal schooling. CALP levels consist of a number (1-5) and a level descriptions, ranging from ‘Negligible’ (1) to ‘Advanced’ (5), as well as descriptions of how an individual would

find the demands of academic instruction in that language ('Instructional Implications') in tasks similar to the test itself, which range from 'impossible' (1) to 'very easy' (5).

Although the BVAT-NU only reports on five levels when the *Scoring and Reporting Program of the BVAT* generates a Table of Scores, the *Scoring and Reporting Program of the BVAT* produces a Parent Report which includes a table of CALP level descriptors with a sixth level, 'Very Advanced'/'Extremely Easy'. Therefore, I have included the CALP 6 level in the child participant results if it was achieved based on the *Scoring and Reporting Program of the BVAT* Parent Report, but not in the Table of Scores.

**Table 13:**

*BVAT-NU Picture Vocabulary Cognitive Academic Language Proficiency (PV-CALP) Results*

Child Code	BVAT-NU Picture Vocabulary Cognitive Academic Language Proficiency (PV-CALP) Results			
	L1	L2	L3	L4
B12	5	3	3.5	-
G7	4	3	1	-
G19	5	5	4	-
B13	5	3.5	4	-
B16	4.5	4.5	3	-
B6	4.5	4.5	3	-
B18	5	3	5	3.5
<b>Average</b>	4.5	3.5	3	-

Table 13 shows that all the child participants in the pilot group scored the full range of CALP scores (1-5) in this test. The highest CALP scores were obtained in the English version (L1) of the test, in which all seven participants scored a CALP 5 (Advanced) or CALP 4.5 (Fluent to Advanced). The child participants scored a greater variety of CALP scores in the L2 versions of this test compared to the English version. Three child participants scored

CALP 5 (Advanced) or 4.5 (Fluent to Advanced), but four children scored CALP 3.5 (Limited to Fluent). In the L3 versions, three child participants scored CALP 5 (Advanced) or 4.5 (Fluent to Advanced) and three scored lower CALP scores of 3.5 (Limited to Fluent) or 3 (Limited). One child scored the lowest possible CALP score of 1 (Negligible) in the L3 version of this test. Interestingly, four participants scored high CALP scores of 5 (Advanced), 4.5 (Fluent to Advanced) and 4 (Fluent) in two out of the three languages tested. One child participant scored CALP 5 (Advanced) or 4 (Fluent) in all three languages tested. Two children only scored higher than CALP 3.5 (Limited to Fluent) in one of their languages, which in both cases was English. Table 13 shows that the highest average CALP score for the pilot group was obtained in the English version. The average CALP score for L1 in this test was CALP 4.5 (Fluent to Advanced). The group average CALP scores for L2 and L3 versions were much lower at an average of CALP 3.5 (Limited to Fluent) in the L2 test and CALP 3 (Limited) in the L3 test.

#### **6.1.4 Results: BVAT-NU Picture Vocabulary Multilingual Gains**

In this section, the Picture Vocabulary raw scores for the English version (L1) are presented. None of the scores presented here are created by the *Scoring and Reporting Program of the BVAT*; rather, they are presented to show the score difference when an individual is able to present an answer correctly in languages known by the individual for an item that they do *not* know in the primary language of the test (English). In this instance, the language of the test is English and the additional languages are L2s, L3s (and L4 for child B18). The raw scores are the items answered correctly by the individual in the English test. The number of items an individual can answer correctly depends on the age of the child; hence, the English raw scores are not discussed. What is presented are the number of items

answered correctly in the additional languages (L2, L3, L4) when they were answered incorrectly or not-known in the L1 version of the test. These are referred to as the ‘gain scores’. The multilingual gain score included here is calculated by adding the gain score to the raw score and calculating the proportional gain. The difference between the raw score and the multilingual score is presented in Table 14 as a percentage score increase.

**Table 14:**

*BVAT-NU Picture Vocabulary Multilingual Gain Scores*

Child Code	L1 Raw Score	BVAT-NU Picture Vocabulary Multilingual Gain Score (Points)		
		Multilingual Score	Gain Score	Percentage Increase
B12	32	33	+1	3.1%
G7	28	29	+1	3.6%
G19	36	42	+6	16.7%
B13	35	37	+2	2.1
B16	34	36	+2	2.1%
B6	34	38	+4	4.5%
B18	37	42	+5	5.7%
<b>Average</b>	33.7	36.7	+3	3.3%

Table 14 shows that every child participant in the pilot group increased their raw score when their incorrect or not-known test items in the English test (L1) were retested and answered correctly in L2, L3 (or L4). The gain score range was between 1 and 6 points. Four participants had only 1 or 2 gain scores. Three child participants had higher gains, between 4 and 6 points. Comparing the English raw scores with the multilingual gain scores, six children made small gains (2%, 3%, 4% and 5%), but one child increased her score by 16%. Table 14 shows that the pilot group average multilingual gain score in this test was 3 points.

Comparing the average group raw score with the average multilingual gain score, a small increase of 3.3% was recorded.

#### ***6.1.5 Results: BVAT-NU Picture Vocabulary Knowledge Across Languages***

The Picture Vocabulary knowledge across languages results are not created by the *Scoring and Reporting Program of the BVAT*, but rather by analysing an individual's correctly answered items in *all* language versions tested. The total number of correctly answered items in all languages is calculated, which is the total known (in *any* language) Picture Vocabulary items. The correctly answered items are then coded as items answered correctly in one language only, items answered correctly in two languages correctly, items answered correctly in three languages, and for child B18, individual items answered correctly in four languages. A calculation could then be made for each child participant, which is the total number of correctly answered items in any language, and then the proportion of these correctly answered items known in only one language (in *any* language), and the proportion of correctly answered items in two or more languages (in *any* language).

This data is presented here to show how the individual child's knowledge in this test is distributed across the entire language system. The focus is on the extent to which an item is known only in one language and not in other languages, or known in multiple languages. The data for each child participant is presented below as percentages based on the analysis of each child participant's correct answers in each language in this sub test.

**Table 15:**

*BVAT-NU Picture Vocabulary Percentages of Correct Answers Known in only 1, only 2, all/only 3 (or all 4) Languages Tested*

Child Code	BVAT-NU Picture Vocabulary Percentages of Correct Answers Known Only in One Language or More Than One Language				
	% of Items Answered Correctly in More Than One Language	% of Items Answered Correctly in One Language Only	% of Items Answered Correctly in Two Languages Only	% of Items Answered Correctly in All Languages Tested (for B18, 'Only 3' languages)	% of Items Answered Correctly in All Tested Languages (B18 only)
B12	81.8%	18.2%	36.4%	45.4%	-
G7	72.4%	27.6%	27.6%	44.8%	-
G19	81%	19%	19%	62%	-
B13	86.5%	13.5%	21.6%	64.9%	-
B16	91.7%	8.3%	27.8%	63.9%	-
B6	84.2%	15.8%	26.3%	57.9%	-
B18	83.4%	16.6%	14.3%	16.7%	52.4%
Average	83%	17%	24.7%	-	65.2%

Table 15 shows that all the participants in the pilot group could answer more items correctly in two or more languages when compared to the percentage of items known in only one language. That is to say, out of the total number of pictures identified correctly, most were known in more than one language. The participants identified between 72.4% and 91.7% of their pictures correctly in *two or more* languages. Six out of seven participants identified between 44.8% and 64.9% of their pictures correctly in *all* of their languages. The percentage of pictures identified correctly by the participants in *only one* language (i.e. not-known or answered incorrectly in the other languages) ranged from 8.3% to 27.6%. Table 15 shows that, on average, the percentage of pictures identified correctly in *all* of their languages (3 languages for 6 of the participants, 4 languages for participant B18) was 65.2%. The group average of pictures identified correctly in two languages was 24.7%. The lowest average for

the group was the percentage of pictures identified in *only one* language, which was merely 17%.

## **6.2 BVAT-NU Test 2 - Oral Vocabulary**

In this section, the results from the Oral Vocabulary test are presented. In addition, results from Part A: Synonyms and Part B: Antonyms are presented and discussed. It is important to note that it is not normal standard test procedure to discuss the results of Part A and Part B separately. The results from Part A and Part B are normally combined to create the Oral Vocabulary test results, so any analysis of the Part A and Part B results in isolation should be treated with caution.

### ***6.2.1 Results: BVAT-NU Oral Vocabulary Age-Equivalent Scores (BVAT-NU OV-AE)***

Age-equivalent scores are commonly used by clinicians and educators to describe how a child performs in standardised tests. It is a popular measure, often used in discourse on language impairment, despite there being problems with this metric (See Chapter 5, section 5.2.3 for this discussion). Age-equivalent scores are included here because it remains a commonly-used measurement, but these scores should be dealt with carefully.

**Table 16:***BVAT-NU Oral Vocabulary Age-Equivalent Results (BVAT-NU OV-AE)*

Child Code	Actual Age (years-months)	BVAT-NU Oral Vocabulary Age Equivalent Results (BVAT-NU OV-AE) (years-months)			
		L1	L2	L3	L4
B12	7-0	8-8	5-5	7-2	-
G7	7-7	7-6	8-8	7	-
G19	9-4	9-0	9-11	9	-
B13	9-7	8-8	7	12-11	-
B16	10-4	12-3	15-10	8-8	-
B6	10-6	13-8	11	7-5	-
B18	11-0	15-1	12-3	12-3	11-7
Average	9-3	10-8	10	9-1	-

Table 16 shows that not all the child participants scored the same or higher age-equivalent scores compared with their actual age at the time of testing in the L1 (English) version. Four out of the seven child participants achieved higher age-equivalent scores than their actual ages in the L1 version, but three child participants achieved lower age-equivalent scores than their actual ages. In the L2 version of this test, five child participants scored higher age-equivalent scores than their actual ages and three scored lower than their actual ages. In the L3 version of the test three child participants scored higher age-equivalent scores than their actual ages and four child participants scored lower than their actual ages. Almost all of the child participants in the group had an age-equivalent score for this test that was lower than their actual age in one of their languages tested. However, three child participants scored age-equivalent scores higher than their actual ages in two languages tested, and one child (B18) scored age-equivalent scores higher than his actual age in all four languages tested. The highest age-equivalent scores achieved by the child participants were almost

equally split between performance in the L1 version and the L2 version. Only one child participant scored his highest age-equivalent score in this test in the L3 version. Table 16 shows the pilot group's average age-equivalent scores in the Oral Vocabulary test in the languages tested are close. The difference between the average lowest age-equivalent score obtained in the L3 version and the average highest age-equivalent score obtained in the L1 version is one year and seven months. Interestingly, while the average age-equivalent scores for L1 and L2 were both higher than the average actual age for the pilot group, age-equivalent average score for the L3 version was only two months lower than the average actual age.

### **6.2.2 Results: BVAT-NU Oral Vocabulary Standard Scores (BVAT-NU OV-SS)**

The Oral Vocabulary standard score is obtained by the administrator first establishing an Oral Vocabulary **raw score** from the individual's answers. The Oral Vocabulary raw score is obtained by adding the raw score from the Part A: Synonyms test with the raw score from the Part B: Antonyms test. The Oral Vocabulary raw score is then entered into the *Scoring and Reporting Program of the BVAT*. The standard score scale is the same used in most standardised tests with standard deviations. For more information on this, see Chapter 5, section 5.2.3. The *Scoring and Reporting Program of the BVAT* can only produce standard scores for each test administered in English. It is not possible for the *Scoring and Reporting Program of the BVAT* to create a standard score for each test for languages other than English. The pilot group child participants' standard score results in L1 (English) were produced using the normal test procedure as described in the Comprehensive Manual. In order to obtain standard scores for the additional languages, a non-standard procedure was used. The pilot group child participants' raw scores were entered into the *Scoring and*

*Reporting Program of the BVAT* in the English raw scores are normally entered. A standard score can then be created for that language. A similar procedure to this has been used by other researchers using the BVAT-NU to establish the language proficiencies of children (see Chapter 5, section 5.2.2). Even so, as a non-standard procedure was used, the results should be interpreted cautiously.

**Table 17:**

*BVAT-NU Oral Vocabulary Standard Results (BVAT-NU OV-SS)*

Child Code	BVAT-NU Oral Vocabulary Standard Results			
	L1	L2	L3	L4
B12	118	86	103	-
G7	99	114	97	-
G19	97	103	97	-
B13	93	79	117	-
B16	110	124	90	-
B6	114	102	79	-
B18	117	106	106	103
Average	106.9	102	98.4	-

Table 17 shows that 91% of the pilot group child participants' results fell within a standard deviation range for all the language versions. Every child participant obtained a standard score that is described as *average* or *high average* in the L1 (English) version of this test. In the L2 version of the test, performance was more varied. Four out of seven child participants scored *average* or *high average* standard scores, and one child participant scored a very high standard score (124), which is described as a *superior* score in the L2 versions. One child participant scored a *low average* score of 86, and one child scored a lower score of 79 in the L2 version, which is a score that falls outside the deviation range and is described as a *borderline* score. In the L3 version most child participants obtained *average* or *high*

*average* scores in this test. Like the L1 results for this test, no child participant scored a *superior* score, and like the L2 results, one child participant obtained a score of 79 (*borderline* score) in the L3 version. Interestingly, six out of the seven child participants in the group obtained *high average* scores in one of the languages tested, and fewer than half of the pilot group scored *high average* scores in the L1 (English) version. Table 17 shows that the group's average standard scores for each language version are all very close (8.5 points difference between the lowest and highest score) and fall within the standard deviation range. The highest average group standard score was in the L1 (English) version of the test, the second highest was in the L2 version and the lowest average standard score was in the L3 version.

### **6.2.3 Results: BVAT-NU Cognitive Academic Language Proficiency Oral Vocabulary Scores (BVAT-NU OV-CALP)**

The Cognitive Academic Language Proficiency (CALP) scoring system contains five levels that relate to an individual's language proficiency in academic situations, such as formal schooling. CALP levels consist of a number (1-5) and a level descriptions, ranging from 'Negligible' (1) to 'Advanced' (5), as well as descriptions of how an individual would find the demands of academic instruction in that language ('Instructional Implications') in tasks similar to the test itself, which range from 'impossible' (1) to 'very easy' (5). Although the BVAT-NU only reports on five levels when the *Scoring and Reporting Program of the BVAT* generates a Table of Scores, the *Scoring and Reporting Program of the BVAT* produces a Parent Report which includes a table of CALP level descriptors with a sixth level, 'Very Advanced'. Therefore, I have included CALP 6 level in the child participant results if it was

achieved based on the *Scoring and Reporting Program of the BVAT* Parent Report, but not in the Table of Scores.

**Table 18:**

*BVAT-NU Oral Vocabulary Cognitive Academic Language Proficiency (OV-CALP) Results*

Child Code	BVAT-NU Oral Vocabulary Cognitive Academic Language Proficiency (OV-CALP) Results			
	L1	L2	L3	L4
B12	5	3	4	-
G7	4	5	4	-
G19	4	4	4	-
B13	3.5	3	5	-
B16	4.5	5	3	-
B6	5	4	3	-
B18	5	4.5	4.5	4
Average	4	3.5	3.5	-

Table 18 shows that the child participants in the pilot group all scored a CALP score of 3 (limited), 3.5 (limited to fluent), 4 (fluent), 4.5 (fluent to advanced) or 5 (advanced) in the language versions tested in the Oral Language test. The highest CALP score 5 (advanced) was achieved by three out of seven child participants in the L1 (English) version of the test. Two child participants also scored CALP score 5 (advanced) in the L2 versions and one child participant scored CALP score 5 (advanced) in the L3 version of the test. The next highest CALP scores of 4.5 (fluent to advanced) and 4 (fluent) were achieved by the child participants in this test but they were spread more evenly across the languages. Three child participants scored CALP 4.5 or 4 in the L1 version, three child participants scored these scores in the L2 version and four child participants scored these CALP scores in the L3 version. The lowest CALP score achieved in this test was CALP score 3 (limited). The child

participants achieved CALP score 3 (limited) mostly in the L2 or L3 versions of the test.

Interestingly, one child (B13) scored the slightly higher CALP score of 3.5 (limited to fluent) in the L1 (English) version, and one child participant (G19) scored the same CALP score of 4 (fluent) in all her languages. The group average CALP score for the Oral Vocabulary test was CALP 4 (fluent) in the L1 (English) version. The group average CALP score was lower in the L2 and L3 versions of the test but, the same at CALP 3.5 (limited to fluent).

#### **6.2.4 BVAT-NU Oral Vocabulary Multilingual Gains**

In this section, the Oral Vocabulary raw scores for the L1 (English) version are presented. The scores presented here are not generated by the *Scoring and Reporting Program of the BVAT*. The data shows how the score differences when the testee is able to present an answer correctly in a language other than the base language of the test (English) when he or she did not know the answer in the base language. In this instance, the base language of the test is L1 (English) and the additional languages are L2, L3 (or L4 for child B18). The raw scores for the Oral Vocabulary test represent the number of items answered correctly by the individual in the L1 (English) test for Part A: Synonyms added together with the number of items answered correctly by the individual in the L1 test for Part B: Antonyms. The number of items an individual can answer correctly depends on the age of the child; hence, the English raw scores are not discussed. What is presented are the number of items answered correctly in the additional languages (L2, L3, L4) when they were answered incorrectly or not-known in the L1 version of the test; these are referred to as the 'gain scores'. The multilingual gain score included here is calculated by adding the gain scores from Part A: Synonym and Part B: Antonym to the raw scores from Part A: Synonym and

Part B: Antonym, and calculating a proportional gain. The difference between the raw score and the multilingual score is presented in Table 19 as a percentage score increase.

**Table 19:**

*BVAT-NU Oral Vocabulary Multilingual Gain Scores*

Child Code	BVAT-NU Oral Vocabulary Multilingual Gain Scores			
	Raw Score	Gain Score	Multilingual Score	Percentage Increase
B12	17	+3	20	17.6%
G7	12	+12	24	100%
G19	18	+10	28	55.6%
B13	17	+13	30	76.5%
B16	24	+8	32	33.3%
B6	26	+4	30	15.4%
B18	28	+7	35	25%
Average	20.2	+8.2	28.4	40.1%

Table 19 shows that every child participant in the pilot group increased their raw score when their incorrect or unknown test items in the L1 (English) test were retested and answered correctly in L2, L3 (or L4). The gain score range was between 3 and 13 points. Two child participants in the group had 3 or 4 gain scores, but five children in the group had higher gain scores of 7 to 13 points in this test. Comparing the L1 (English) raw scores with the multilingual gain scores, two child participants increased their scores by 15.4% and 17.6%. The remaining five child participants increased their scores between 25%-100%. Table 10 shows that the pilot group average multilingual gain in the Oral Vocabulary test was 8.3 points. Comparing the average raw score with the average multilingual gain score, a significant increase of 40.1% was recorded.

**Table 20:**

BVAT-NU Oral Vocabulary Part A: Synonyms Multilingual Gain Scores

Child Code	BVAT-NU Oral Vocabulary Part A: Synonyms Multilingual Gain Scores			
	Raw Score	Gain Score	Multilingual Score	Percentage Increase
B12	6	+1	7	16.7%
G7	4	+5	9	125%
G19	7	+6	13	85.8%
B13	7	+9	16	128.6%
B16	10	+6	16	60%
B6	12	+3	15	25%
B18	12	+1	13	8.3%
Average	8.2	+4.4	12.6	53.7%

Table 20 shows the results from Part A: Synonyms test only. The multilingual gain score included here is calculated by adding the gain scores from Part A: Synonym to the raw scores from Part A: Synonym, and calculating a proportional gain. The difference between the raw score and the multilingual score is presented in Table 20 as a percentage score increase. The table shows that all the child participants in the group increased their raw scores when their gain scores were added. Almost all the child participants increased their scores by 25% or higher. Two child participants made very significant gains and increased their scores by 125% and 128.6%. There was a considerable increase in percentage range in the Part A: Synonyms results. The range was 120.3% between the lowest percentage gain and the highest percentage gain. Table 20 shows the group average gain for Part A was 4.4 points compared to the group average raw score. The average percentage increase from raw score to multilingual gain score was 53.7%.

**Table 21:***BVAT-NU Oral Vocabulary Part B: Antonyms Multilingual Gain Scores*

Child Code	BVAT-NU Oral Vocabulary Part B: Antonyms Multilingual Gain Scores			
	Raw Score	Gain Score	Multilingual Score	Percentage Increase
B12	11	+2	13	18.2%
G7	8	+7	15	87.5%
G19	11	+4	15	36.4%
B13	10	+4	14	40%
B16	14	+2	16	14.3%
B6	14	+1	15	7.1%
B18	16	+6	22	37.5%
Average	12	+ 3.7	15.7	30.8%

Table 21 shows the results from Part B: Antonyms test only. The multilingual gain score included here is calculated by adding the gain scores from Part B: Antonym to the raw scores from Part B: Antonym, and calculating a proportional gain. The difference between the raw score and the multilingual score is presented in Table 21 as a percentage score increase. The table shows that all the child participants in the group increased their raw scores when their gain scores were added. Compared with the results from Part A: Synonyms test in the previous section, the child participant percentage increases for Part B: Antonyms were lower. Three child participants increased their raw scores by 36.4%, 37.5% and 40% and one child participant increased her score significantly by 87.5%. The percentage gain range between the lowest percentage gain and the highest percentage gain for Part B: Antonyms compared to Part A: Synonyms was also lower at 80.4%. Table 21 shows the group average gain for Part B was 3.7 points. The average percentage increase from raw score to multilingual gain score was 30.8%.

**Table 22:**

*Oral Vocabulary, Oral Vocabulary Part A: Synonyms & Oral Vocabulary Part B: Antonyms Multilingual Gains Compared*

Test and Part	Oral Vocabulary, Oral Vocabulary Part A: Synonyms & Oral Vocabulary Part B: Antonyms Multilingual Gains Compared			
	Raw Score	Gain Score	Multilingual Score	Increase
Average Oral Vocabulary (Part A + Part B)	20.2	+8.2	28.4	40.1%
Average Part A: Synonyms	8.2	+4.4	12.6	53.7%
Average Part B: Antonyms	12	+3.7	15.7	30.8%

Table 22 shows the pilot group average raw scores, gain scores, multilingual scores and percentage increase for the Oral Vocabulary Test and its two parts: Part A: Synonyms and Part B: Antonyms. The group average gain score for the group was higher in the Part A: Synonyms test than Part B: Antonyms test.

### **6.2.5 BVAT-NU Oral Vocabulary Knowledge Across Languages**

The Oral Vocabulary knowledge across languages results presented here are not generated by the *Scoring and Reporting Program of the BVAT*, but rather by analysing an individual's correctly answered items in *all* language versions tested. The total number of correctly answered items in all languages is calculated, which is the total known (in *any* language) Oral Vocabulary items. The correctly answered items are then coded as items answered correctly in one language only, individual items answered correctly in two languages correctly, and individual items answered correctly in three languages (and, for child B18, individual items answered in four languages correctly). A calculation could then be made for each child participant, which is the total number of correctly answered items in

any language, and then the proportion of these correctly answered items known in only one language (in *any* language), and the proportion of correctly answered items in two or more languages (in *any* language).

This data is presented here to show how the individual child's knowledge in this test is distributed across the entire language system; the focus is instead on the extent to which an item is known only in one language and not in other languages, or known in multiple languages. The data for each child participant is presented below as percentages based on the analysis of each child participant's correct answers in each language in this sub test.

**Table 23:**

*BVAT-NU Oral Vocabulary Percentages of Correct Answers Known in only 1, only 2, all/only 3 (or all 4) Languages Tested*

Child Code	BVAT-NU Oral Vocabulary Percentages of Correct Answers Known Only in One Language or More Than One Language				
	% of Items Answered Correctly in More Than One Language	% of Items Answered Correctly in One Language Only	% of Items Answered Correctly in Two Languages Only	% of Items Answered Correctly in All Languages Tested (for B18, 'Only 3' languages)	% of Items Answered Correctly in All Tested Languages (B18 only)
B12	55%	45%	45%	10%	10%
G7	41.7%	58.3%	12.5%	29.2%	29.2%
G19	67.9%	32.1%	35.8%	32.1%	32.1%
B13	46.7%	53.3%	16.7%	30%	30%
B16	71.9%	28.1%	25%	46.9%	46.9%
B6	66.7%	33.3%	30%	36.7%	36.7%
B18	77.1%	22.9%	17.1%	11%	49%
Average	61%	39%	26%	-	33.4%

Table 23 shows that most, but not all, the child participants in the pilot group could correctly answer items in this test in two or more of their languages. Five child participants correctly answered between 55-77% of the items in two or more languages. Two child

participants could correctly answer the items in one language more than they could in two or more languages. One child participant knew 58.3% of the answers in one language only and 41.7% and another child participant knew 53.3% of the answers in one language only 46.7% in more than one language. Table 23 shows that as a group they answered on average 61% of items in more than one language. The group average percentage of correct answers in two languages was 26%. The lowest proportion for the group was the percentage of correct answers known in one language and not additional languages. The group average percentage of correct answers given in one language only was 39%.

**Table 24:**

*BVAT-NU Oral Vocabulary Part A: Synonym Percentages of Correct Answers Known in only 1, only 2, all/only 3 (or all 4) Languages Tested*

Child Code	<b>BVAT-NU Oral Vocabulary Part A: Synonym Percentages of Correct Answers Known Only in One Language or More Than One Language</b>				
	% of Items Answered Correctly in More Than One Language	% of Items Answered Correctly in One Language Only	% of Items Answered Correctly in Two Languages Only	% of Items Answered Correctly in All Languages Tested (for B18, 'Only 3' languages)	% of Items Answered Correctly in All Tested Languages (B18 only)
B12	28.6%	71.4%	28.6%	0%	0%
G7	22.2%	77.8%	0%	22.2%	22.2%
G19	61.5%	38.5%	46.2%	15.3%	15.3%
B13	25%	75%	12.5%	12.5%	12.5%
B16	56.2%	43.8%	24.9%	31.3%	31.3%
B6	60%	40%	40%	20%	20%
B18	77%	23%	23%	7.8%	7.8%
Average	47.2%	52.8%	25%	-	15.6%

Table 24 shows that four (G19, B16, B6, B18) out of seven child participants in the pilot group could correctly answer a higher proportion of items in Part A: Synonyms in more than one of their languages than in only one language. For three child participants (B12, G7,

B13) it was the opposite because they could correctly answer a higher proportion in one language only. The child participants answered between 22.2% and 77% of their answers in more than one language. The difference between the highest proportion answered correctly in more than one language and the lowest proportion answered in more than one language was 54.8%. The percentage of items answered correctly by the child participants in one language only and not answered correctly or known in any other language ranged from 23% to 77.8%. The difference between the highest proportion answered correctly in only one language and the lowest proportion answered in only one language was identical to the previously reported difference of 54.8%. Table 24 shows that, as a group, the average proportion of items answered correctly in more than one language, 47.2%, was lower than the average proportion of items answered correctly only in one language, 52.8%.

**Table 25:**

*BVAT-NU Oral Vocabulary Part B: Antonym Percentages of Correct Answers Known in only 1, only 2, all/only 3 (or all 4) Languages Tested*

Child Code	<b>BVAT-NU Oral Vocabulary Part B: Antonym Percentages of Correct Answers Known Only in One Language or More Than One Language</b>				
	% of Items Answered Correctly in More Than One Language	% of Items Answered Correctly in One Language Only	% of Items Answered Correctly in Two Languages Only	% of Items Answered Correctly in All Languages Tested (for B18, 'Only 3' languages)	% of Items Answered Correctly in All Tested Languages (B18 only)
B12	69.2%	30.8%	53.8%	15.4%	15.4%
G7	53.3%	46.7%	20%	33.3%	33.3%
G19	73.4%	26.6%	26.6%	46.8%	46.8%
B13	71.4%	28.6%	21.4%	50%	50%
B16	87.5%	12.5%	25%	62.5%	62.5%
B6	73.3%	26.7%	20%	53.3%	53.3%
B18	77.2%	22.8%	13.6%	13.6%	50%
Average	72.2%	27.8%	25.8%	-	44.5%

Table 25 shows that all the child participants in the pilot group could correctly answer a higher proportion of items in Part B: Antonyms in more than one language than only in one language. The proportion of correctly answered items in this part of the test in more than one language was over 50% for every child participant. Five child participants answered over 70% of the items correctly (G19, B13, B16, B6, B18) in more than one language with the highest percentage being 73.4% (G19). The proportion of items answered correctly only in one language for Part B: Antonyms ranged between 12.5% and 46.7%. Interestingly, the proportional difference between the correct answers given in one language only and correct answers given in more than one language was identical at 34%. Table 25 shows the group average proportion of correctly answered items for Part B: Antonyms was significantly higher at 72.2% than the average proportion answered correctly in one language only.

**Table 26:**

*BVAT-NU Oral Vocabulary Average Percentage, Oral Vocabulary Part A: Synonym Average Percentage, Oral Vocabulary Part B: Antonym Average Percentage of Correct Answers Known in only 1, only 2, all/only 3 (or all 4) Languages Tested*

Test and Part	Percentages of Correct Items Known in Only One, Only Two or All Languages			
	% of Items Answered Correctly in More Than One Language	% of Items Answered Correctly in One Language Only	% of Items Answered Correctly in Two Languages Only	% of Items Answered Correctly in All Languages Tested (for B18, 'Only 3' languages)
Average Oral Vocabulary	61%	39%	26%	33.4%
Average Part A: Synonyms	47.2%	52.8%	25%	15.6%
Average Part B: Antonyms	72.2%	27.8%	25.8%	44.5%

Table 26 shows the pilot group average percentages of correctly answered items in the Oral Vocabulary test and its two parts: Part A: Synonyms and Part B: Antonyms. The group's average percentage of correct answers in Part B: Antonyms in more than one language was higher than the group's average items answered correctly in only one language for Part B

(72.2% versus 27.8%). The reverse trend can be seen in the Part A: Synonyms group average results, where the percentage of items answered correctly in one language was higher than the proportion of correctly answered items in more than one language (47.2% versus 52.8%). The group average percentage difference between the number of correct answers known in more than one language compared to one language only is significantly higher in the Part B: Antonyms test than the Part A Synonyms test. For the overall Oral Vocabulary test (Parts A and B combined), the percentage of correct answers in more than one language was significantly higher than in only one language (69% versus 31%).

### **6.3 Results - Test 3 Verbal Analogies**

#### ***6.3.1 Results: BVAT-NU Verbal Analogies Age-Equivalent Scores (BVAT-NU VA-AE)***

Age-equivalent scores are commonly used by clinicians and educators to describe how a child performs in standardised tests. It is a popular measure, often used in discourse on language impairment, despite there being problems with this metric (See Chapter 5, section 5.2.4 for discussion). Age-equivalent scores are included here because it remains a commonly-used measurement, but these scores should be dealt with cautiously, as discussed in Chapter 5.

**Table 27:***BVAT-NU Verbal Analogies Age Equivalent Results (BVAT-NU VA-AE)*

Child Code	Actual Age (years-month)	BVAT-NU Verbal Analogies Age Equivalent Results (BVAT-NU VA-AE) (years-month)			
		L1	L2	L3	L4
B12	7-0	11-1	7-7	7	-
G7	7-7	8	15-8	7	-
G19	9-4	14-5	15-8	14-5	-
B13	9-7	10-4	11-1	18-2	-
B16	10-4	13-1	22	8-4	-
B6	10-6	19	12	9-9	-
B18	11-0	12	15.8	19	16-11
Average	9-3	12-2	14-2	11-11	-

Table 27 shows that all of the participants in the pilot group scored higher age-equivalent scores than their actual ages in their L1 (English) and L2 versions. Three participants achieved lower age-equivalent scores than their actual ages in the L3 version. Two participants scored their highest age-equivalent scores in the L1 (English) version. Three participants scored their highest age-equivalent scores in the L2 versions, and two scored their highest age-equivalent scores in the L3 versions. All the children obtained age-equivalent scores that were significantly higher than their actual ages in at least one of their languages tested. Table 27 shows that the pilot group average age-equivalent scores was the highest in the L2 version. The difference between the average actual age and the average age-equivalent score was 4 years and 11 months. The group average age-equivalent scores in the L1 and L3 versions were closer. The age-equivalent average score in the L1 was 2 years and 11 months higher than the average actual age, and the age-equivalent score in the L3 was 2 years and 8 months higher.

### **6.3.2 Results: BVAT-NU Verbal Analogies Standard Scores (BVAT-NU VA-SS)**

The standard score is obtained by the administrator entering a test participant's raw scores for the Verbal Analogies test into the *Scoring and Reporting Program of the BVAT*. The standard score scale is the same used in most standardised tests with standard deviations. For more information on this, see Chapter 5, section 5.2.3. The *Scoring and Reporting Program of the BVAT* can only produce standard scores for each test administered in English. It is not possible for the *Scoring and Reporting Program of the BVAT* to create a standard score for the other languages. The pilot group participants' standard score results in L1 (English) were produced using the normal test procedure as described in the Comprehensive Manual. In order to obtain standard scores for the additional languages, a non-standard procedure was used. As described in Chapter 5 and at the start of this chapter, the pilot group participants' raw scores were entered into the *Scoring and Reporting Program of the BVAT* in the section normally used to enter the English raw scores. A standard score was then created for that language. A similar procedure has been used by other researchers using the BVAT-NU to establish the language proficiencies of children (see Chapter 5, section 5.2.2), but as a non-standard procedure was used, the results should be interpreted cautiously.

**Table 28:***BVAT-NU Verbal Analogies Standard Results (BVAT-NU VA-SS)*

Child Code	BVAT-NU Verbal Analogies Standard Results (BVAT-NU VA-SS)			
	L1	L2	L3	L4
B12	118	97	104	-
G7	106	97	134	-
G19	127	100	106	-
B13	103	106	120	-
B16	107	122	92	-
B6	103	112	110	-
B18	115	117	115	116
Average	111.3	107.3	111.6	-

Table 28 shows that in the Verbal Analogies test, six of the child participants, achieved standard scores within one standard deviation, and in one case higher (G19, 127) in L1. The standard scores achieved for the Verbal Analogies test are described as *'average'*, *'high average'*, *'superior'*, or *'very superior'* for all the languages tested, and across all participants (see Chapter 5, section 5.2.5 for details). Four children obtained a *superior* or *very superior* score in one of their languages (G19 in L1, B16 in the L2, B13 in L3, and G7 in L3). One child participant (B18) scored above average standard scores in all four languages. Table 28 shows that the group average standard scores in the Verbal Analogies test are very close for each language. The group average standard score in the L3 and L1 versions are almost identical at 111.6 and 111.3, both classified as *'high average'* scores. Moreover, the group average standard score in the L2 version is 107.3, only 4 to 4.3 points lower than the other averages, and is classified as *'average'*.

### 6.3.3 Results: BVAT-NU Cognitive Academic Language Proficiency Verbal Analogies

#### Scores (BVAT-NU VA CALP)

The Cognitive Academic Language Proficiency (CALP) scoring system contains five levels that relate to an individual's language proficiency in academic situations, such as formal schooling. CALP levels consist of a number (1-5) and a level descriptions, ranging from 'Negligible' (1) to 'Advanced' (5), as well as descriptions of how an individual would find the demands of academic instruction in that language ('Instructional Implications') in tasks similar to the test itself, which range from 'impossible' (1) to 'very easy'(5). Although the BVAT-NU only reports on five levels when the *Scoring and Reporting Program of the BVAT* generates a Table of Scores, the *Scoring and Reporting Program of the BVAT* produces a Parent Report which includes a table of CALP level descriptors with a sixth level, Very Advanced. Therefore, I have included CALP 6 level in the child participant results if it was achieved based on the *Scoring and Reporting Program of the BVAT* Parent Report, but not in the Table of Scores.

**Table 29:**

*BVAT-NU Verbal Analogies Cognitive Academic Language Proficiency (VA-CALP) Results*

Child Code	BVAT-NU Verbal Analogies Cognitive Academic Language Proficiency (VA-CALP) Results			
	L1	L2	L3	L4
B12	6	4.5	4	-
G7	4.5	6	4	-
G19	5	5	5	-
B13	4	4.5	5	-
B16	4.5	5	3.5	-
B6	5	4	4	-
B18	4	4.5	5	5
Average	5	5	4.5	-

Table 29 shows that 95.5% of child participants' results in the pilot group were a CALP score of 4 (fluent), 4.5 (fluent to advanced), 5 (advanced) or 6 (very advanced) in the Verbal Analogies tests. Only one child participant scored a CALP 3.5 (limited to fluent) in the L3 version of the test. Two child participants scored very high CALP scores of 6 (very advanced), one in L2 and one in L1. One child participant scored CALP 5 (advanced) in all three languages tested. The highest CALP scores achieved by the child participants in this group were distributed across the languages tested. Two children obtained their highest CALP scores in the L1 version, two children obtained their highest in the L2 version and two children obtained their highest in the L3 and L4 versions. The group average CALP score is very close for all languages with a slightly higher CALP 5 (advanced) performance in the L1 and L2. However, the group average CALP score of 4.5 (fluent to advanced) for the L3 version is very close to the scores for L1 and L2.

#### **6.3.4 BVAT-NU Verbal Analogies Multilingual Gains**

In this section the Verbal Analogies raw scores for the L1 (English) version are presented. The scores presented here are not generated by the *Scoring and Reporting Program of the BVAT*. The data shows how the score differences when the testee is able to present an answer correctly in a language other than the base language of the test (English) when he or she did not know the answer in the base language. In this instance, the language of the test is L1 (English) and the additional languages are L2, L3 (or L4 for child B18). The raw scores are the items answered correctly by the individual in the L1 (English) test. The number of items an individual can answer correctly depends on the age of the child, so the L1 raw scores are not discussed. What is presented are the number of items answered correctly in the additional languages (L2, L3 or L4) when they were answered incorrectly or not-known

in L1 (English). These are referred to as the ‘gain scores’. The multilingual gain scores included here are calculated by adding the gain score to the raw score. In addition, the difference between the raw score and the multilingual score is presented in Table 30 as a percentage increase.

**Table 30:**

*BVAT-NU Verbal Analogies L1 Raw Scores and Multilingual Gain Scores*

Child Code	BVAT-NU Verbal Analogies L1 Raw Scores and Multilingual Gain Scores			
	Raw Score	Gain Score	Multilingual Score	Percentage Increase
B12	17	+2	19	11.8%
G7	11	+14	25	127.3%
G19	20	+8	28	40%
B13	16	+11	27	68.8%
B16	19	+11	30	57.8%
B6	24	+4	28	16.7%
B18	18	+10	28	55.6%
Average	17.6	+8.6	26.2	48.9%

Table 30 shows that all the child participants in the pilot group achieved gain scores when not-known or incorrect items in the L1 (English) version were re-tested in the other languages. The child participants achieved between 2 and 14 gain scores. Most child participants’ raw scores increased between 11.8% and 127.3% when their L2 and L3 gain scores were considered. Four child participants achieved a gain score increase of over 50%, and one child (G7) increased her raw score by 127.3%. Table 30 shows the average group raw score to multilingual gain score increase was high at 48.9%.

### **6.3.5 BVAT-NU Verbal Analogies Knowledge Across Languages**

The Verbal Analogies knowledge across languages results are not generated by the *Scoring and Reporting Program of the BVAT*, but rather by analysing an individual's correctly answered items in *all* language versions tested. The total number of correctly answered items in all languages is calculated, which is the total known (in *any* language) Verbal Analogies. The correctly answered items are then coded as questions answered correctly in one language only, individual items answered correctly in two languages correctly, and individual items answered correctly in three languages (and, for child B18, individual items answered in four languages correctly). A calculation is then made for each child participant, which is the total number of correctly answered items in any language, from which the proportion of these correctly answered items known in only one language (i.e. in *any* language) is determined, as well as the proportion of correctly answered items in two or more languages (i.e. in *any* language).

This data is presented here to show how the individual child's knowledge in this test is distributed across his or her entire language system. The focus is on the extent to which an item is known only in one language and not in other languages, or known in multiple languages. The data for each child participant is presented below as percentages based on the analysis of each child participant's correct answers in each language in this sub test.

**Table 31:**

*BVAT-NU Verbal Analogies Percentages of Correct Answers Known in only 1, only 2, all/only 3 (or all 4) Languages Tested*

Child Code	BVAT-NU Verbal Analogies Percentages of Correct Answers Known Only in One Language or More Than One Language				
	% of Items Answered Correctly in More Than One Language	% of Items Answered Correctly in One Language Only	% of Items Answered Correctly in Two Languages Only	% of Items Answered Correctly in All Languages Tested (for B18, 'Only 3' languages)	% of Items Answered Correctly in All Tested Languages (B18 only)
G7	44%	56%	28%	16%	16%
G19	75%	25%	32.1%	42.9%	42.9%
B13	60.7%	39.3%	17.8%	42.9%	42.9%
B16	56.7%	43.3%	26.7%	30%	30%
B6	64.3%	35.7%	25.1%	39.2%	39.2%
B18	93.1%	6.9%	27.6%	27.6%	37.9%
Average	65.3%	34.7%	27.7%	-	33.6%

Table 31 shows that almost all the child participants in the group were able to give more correct answers in more than one language compared to in one language only. Only one child participant (G7) gave more correct answers in one language only than in more than one language. The child participant tested in four languages (B18) knew 93.1% of correctly answered items in more than one language. The group on average answered 65.3% of their items in the Verbal Analogies test correctly in more than one language, compared to 34.7% of items answered correctly in only one language.

#### **6.4 BVAT-NU Group Average Performance Comparisons**

In this section, the group average scores from each test within the BVAT-NU test are presented and compared. Like the previous sections, the average scores are presented by scoring category: age equivalent scores, standard scores, CALP scores, multilingual gain

scores and the percentage of items correctly answered in one or more languages. The group average scores for each test (Picture Vocabulary, Oral Vocabulary and Verbal Analogies) are presented by language version.

#### **6.4.1 BVAT-NU Age-Equivalent Scores Group Averages**

Table 32 below shows the average age-equivalent scores obtained for the pilot group of seven children for each BVAT-NU test, namely Picture Vocabulary, Oral Language and Verbal Analogies, in each language tested (L1-L3). The scores presented are the age-equivalent averages for the group and can be compared with the average actual age of the pilot group, which was 9 years and 3 months. Table 32 also shows the group's total average age-equivalent when all three test scores are combined: Picture Vocabulary age-equivalent score + Oral Vocabulary age-equivalent score + Verbal Analogies age-equivalent score.

**Table 32:**

*BVAT-NU Age Equivalent Scores Group Averages*

BVAT-NU Test	Average Actual Age (years-months)	BVAT-NU Age Equivalent Scores Group Averages (year-months)		
		L1	L2	L3
Picture Vocabulary	9-3	12-1	8-2	7-2
Oral Vocabulary	9-3	10-8	10	9-1
Verbal Analogies	9-3	12-2	14-2	11-11
Average	9-3	11-4	10-2	9-1

Table 32 shows the pilot group's highest average age-equivalent score when compared to the average actual age score achieved in the L1 (English) version of the test. The highest average age-equivalent score for the group was achieved in the Verbal Analogies test in the L2 version. The lowest average age-equivalent score for the group was achieved in the

Picture Vocabulary test in the L3 version, which was almost two years lower than the average actual age. It was only in the Verbal Analogies test that all the average age-equivalent scores were higher than the average actual age. In the Oral Vocabulary test, the average age-equivalent score in the L3 was lower than the average actual age of 9-3, but only by two months. In the Picture Vocabulary test, the average age-equivalent score in the L2 and L3 both were lower: the L2 average age-equivalent score was almost one year lower than the average actual age, and the L3 average age-equivalent score was almost two years lower than the average actual age. The overall BVAT-NU group average age-equivalent score is highest for L1 (11-4), followed by L2 (10-4), and then lowest in L3 (9-1).

#### **6.4.2 BVAT-NU Standard Scores Group Averages**

Table 33 below shows the average standard scores obtained for the pilot group of seven children for each BVAT-NU test (Picture Vocabulary, Oral Language and Verbal Analogies) in each language tested (L1, L2 and L3; for the purposes of this analysis, B18's L4 was omitted). Table 33 also shows the group's total average standard score when all three test scores are combined (Picture Vocabulary standard score + Oral Vocabulary standard score + Verbal Analogies standard score).

**Table 33:**

*BVAT-NU Standard Scores Group Averages*

BVAT-NU Test	Standard Scores Group Averages		
	L1	L2	L3
Picture Vocabulary	114.3	96.1	86.6
Oral Vocabulary	106.9	102	98.4
Verbal Analogies	111.3	107.3	111.6
Average Standard Score	110.8	101.8	98.9

Table 33 shows that the average standard score achieved in every BVAT-NU test for every language (L1-L3) falls within the standard deviation range. The average standard scores for the group for every language in every test falls into the *low average*, *average* or *high average* range. The average standard scores in the Picture Vocabulary and Oral Vocabulary tests follow the same pattern: the highest average standard score is in L1, followed by L2, and the lowest average standard score is for performance in L3. This pattern is not seen in the average standard scores in the Verbal Analogies test. Instead, the average standard score for the group in L1 and L3 are almost identical (only 0.3 difference), followed by a *lower average* standard score for L2 performance. The overall BVAT-NU group average standard score is highest for L1 (110.8), followed by L2 (101.8), and then lowest in L3 (98.9).

#### **6.4.3 BVAT-NU Cognitive Academic Language Proficiency Group Averages**

Table 34 below shows the average CALP scores obtained for the pilot group of seven children for each BVAT-NU test (Picture Vocabulary, Oral Language and Verbal Analogies) in each language tested (L1, L2 and L3; for the purposes of this analysis, B18's L4 was omitted). Table 34 also shows the group's total average CALP score when all three test scores are combined (Picture Vocabulary CALP score + Oral Vocabulary CALP score + Verbal Analogies CALP score).

**Table 34:***Average CALP Compared by Language and Test*

BVAT-NU Test	Average CALP Compared by Language and Test		
	L1	L2	L3
Picture Vocabulary	4.5	3.5	3
Oral Vocabulary	4	3.5	3.5
Verbal Analogies	5	5	4.5
Average	4.5	4	3.5

Table 34 shows that the highest group average CALP scores were achieved in the Verbal Analogies test. The group average CALP score in the L1 and L2 were identical at CALP 5 (advanced) and slightly lower at CALP 4.5 (fluent to advanced) in the L3. In the Picture Vocabulary and Oral Vocabulary tests the group average CALP scores were highest in the L1 test. In the Oral Vocabulary test, the group average CALP scores in the L2 and L3 were identical at CALP 3.5 (limited to fluent). In the Picture Vocabulary test, however, the group average CALP scores for L3 were lower than L2 at CALP 3 (limited).. The group average CALP scores are highest for L1 (CALP 4.5), followed by L2 (CALP 4), and then lowest in L3 (CALP 3).

#### **6.4.4 BVAT-NU Pilot Group Average Multilingual Gains**

Table 35 below shows the pilot group average multilingual gains in each BVAT-NU test (Picture Vocabulary, Oral Vocabulary and Verbal Analogies). The average scores from each test are combined to create an average group multilingual gain score for the whole test, which is also presented.

**Table 35:***BVAT-NU Test Group Average Gain Scores*

BVAT-NU Test	Group Average Gain Scores			
	Raw Score	Gain Score	Multilingual Gain Score	Multilingual Increase
Picture Vocabulary	33.7	+3	36.7	3.3%
Oral Vocabulary	20.2	+8.1	28.4	40.1%
Verbal Analogies	17.6	+8.6	26.2	48.9%
Average	23.8	+6.6	30.4	27.7%

Table 35 shows that the group average multilingual gain score was higher when compared to the raw score group average results. The largest group average multilingual increase was achieved in the Verbal Analogies test at 48.9%. The second largest group average multilingual increase was achieved in the Oral Vocabulary test at 40.1%, an 8.8% lower increase than the Verbal Analogies gain. The lowest group average multilingual increase was in the Picture Vocabulary test at only 3.3%, significantly lower than both other tests. The average multilingual gain score for the whole test was 6.6% higher than the group average raw score. The pilot group average result shows that the group increased their average L1 raw score by 27.7% when correct answers in the additional languages tested were included in the calculation.

#### **6.4.5 Group Average Knowledge Across Languages**

The table below shows the extent to which the participants as a whole knew the correct answers for each test (Picture Vocabulary, Oral Vocabulary and Verbal Analogies), as well as the whole test in one language only, and in more than one language.

**Table 36:**

*BVAT-NU Percentages of Correct Answers Known in only 1, only 2, all/only 3 (or all 4) Languages Tested*

BVAT-NU Test	<b>BVAT-NU Picture Vocabulary Percentages of Correct Answers Known Only in One Language or More Than One Language</b>			
	% of Items Answered Correctly in More Than One Language	% of Items Answered Correctly in One Language Only	% of Items Answered Correctly in Two Languages Only	% of Items Answered Correctly in All Languages Tested (for B18, 'Only 3' languages)
Picture Vocabulary	83%	17%	24.7%	65.2%
Oral Vocabulary	61%	39%	26%	33.4%
Verbal Analogies	65.3%	34.7%	27.7%	33.6.1%
Average	69.8%	30.2%	26.1%	49.3%

Table 36 shows the pilot group on average knew more test items for each test in more than just one language than in one language alone. The group average knowledge difference between items answered correctly in only one language compared to items answered correctly in two languages or three languages was highest in the Picture Vocabulary test. The group average showed that more items were answered correctly in only two languages (24.7%), and even more in all languages (65.2%), compared to the 17% known in only one language. The group average percentages known in one, two or all languages for the Oral Vocabulary and Verbal Analogies tests were closer than the results shown in the Picture Vocabulary test. While the group average percentages of items known in more than one languages (i.e. L2 and/or L3, and in the case of B18, and/or L4, combined) are higher than the percentage of items known in only one language, the actual group average percentages known in only two languages or known in all three languages for both tests are lower than the average percentages known in one language only. Where the Picture Vocabulary group average for correct answers in one language only is 17%, the group average of correct answers in one language only for Oral Language and Verbal Analogies are double, or slightly

more than double, in comparison (39% and 34.7% respectively). The overall highest group average percentage of correctly answered items was in all languages (37%), followed by answers given in only one language (30.2%). However, the average correctly answered items in more than one language (i.e. L2 and/or L3, and in the case of B18, and/or L4 combined) is higher than one language only.

### **6.5 BVAT-NU Bilingual and Multilingual Cluster Tests Results and Findings**

Most of the child participants in the pilot group were tested in three languages, but one child, B18, was tested in four languages. When testing multilingual children using standardised tests, a clinician or educator normally selects the test and the test language. Test selection is normally based on language proficiency information given to a clinician or educator by the parents, educators in a school, or other clinicians. Due to the complexity of assessing multilingual children in several languages (see Chapter 4), it is common for these children to be given standardised tests in the language of schooling or in two languages, which are usually the language of schooling and a home language. In order to understand how a multilingual child's performance in the BVAT-NU changes depending on the languages chosen to include to create a Bilingual Verbal Ability (BVA) score, two different BVA scores were created:

**Bilingual Verbal Ability 1 (BVA1)** = L1 (English) Raw Score + L2 Gain Score

**Bilingual Verbal Ability 2 (BVA2)** = L1 (English) Raw Score + L3 Gain Score

In order to understand how a multilingual child's performance in the BVAT-NU in all of his or her languages compared to only two languages, an additional score was created:

**Multilingual Verbal Ability (MVA)** = L1 (English) Raw Score + Gain Scores

### 6.5.1 BVAT-NU L1 OVA, BVA1, BVA2, and MVA Age-Equivalent Scores

The table below shows the child participants and group average performances in the BVAT-NU. The Overall Verbal Ability in L1 (English), BVA1, BVA2 and MVA age-equivalent scores are presented and discussed.

**Table 37:**

*BVAT-NU L1 OVA, BVA1, BVA2 and MVA Age-Equivalent Scores*

Child Code	Actual Age (years-month)	BVAT-NU L1 OVA, BVA1, BVA2 and MVA Age-Equivalent Scores (years-month)			
		L1 OVA	BVA1	BVA2	MVA
B12	7-0	10-3	10-7	11-2	11-2
G7	7-7	7-6	9-11	8-6	12-3
G19	9-4	12	16-5	17-1	19
B13	9-7	10-9	12-7	14-10	17-7
B16	10-4	12-10	18-6	14-4	19
B6	10-6	14-5	16-10	15-6	18-4
B18	11-0	14-7	18	19	21
Average	9-3	11-9	14-8	14-4	16-11

Table 37 shows that all the child participants scored higher BVA1, BVA2 and MVA age-equivalent scores than their actual ages. Almost all of the child participants' highest age-equivalent score was their MVA age-equivalent score. The two youngest child participants, aged seven years old, had MVA age-equivalent scores that were about four years higher than their actual ages. The remaining five other child participants' MVA age-equivalent scores were between eight to ten years higher than their actual ages. Comparing the child participant MVA age-equivalent scores with their L1 (English) age-equivalent scores, their MVA scores were all higher. All the child participants' BVA1 age-equivalent scores and BVA2 age-equivalent scores were also higher than both their L1 (English) age-equivalent scores and

their actual ages. Three child participants (G7, B16, B6) obtained higher scores in the BVA1 combination than in the BVA2 combination, and four children (B12, G19, B13, B18) obtained higher scores in the BVA2 combination than BVA1. The average age-equivalent scores for this group show the highest age-equivalent score was the MVA score, followed by the BVA1. The lowest average age-equivalent score when the average L1, BVA1, BVA2 and MVA scores are compared is the L1 (English) score.

### 6.5.2 BVAT-NU L1 OVA, BVA1, BVA2, and MVA Standard Scores

The table below shows the child participants and group average performances in the BVAT-NU. The Overall Verbal Ability in the L1 (English), BVAT1, BVAT2 and MVA standard scores will now be presented and discussed.

**Table 38:**

*Bilingual and Multilingual Overall Verbal Ability Standard Scores*

Child Code	Bilingual and Multilingual Overall Verbal Ability Standard Scores			
	L1 OVA	BVA1	BVA2	MVA
B12	127	129	133	135
G7	102	121	110	135
G19	116	135	138	145
B13	106	116	126	137
B16	113	135	120	137
B6	119	128	123	133
B18	117	129	134	139
Average	114.3	127.6	126.3	137.3

Table 38 shows that most of the child participants in the pilot group scored L1 (English) OVA standard scores that were within the standard deviation range and classified as *average* or *above average*. One child participant scored a *very superior* score for L1

(English) OVA. All the child participants' highest standard scores in the BVAT-NU were the MVA standard scores, all classified as *very superior*. All the child participants' BVA1 and BVA2 standard scores were higher than the child participants' L1 OVA standard scores. Comparing the MVA standard scores with the L1 OVA standard scores, on average, the child participants increased their standard scores by 23 points. While only one *superior* standard score was achieved by a child participant for L1 OVA, four *superior* and two *very superior* standard scores were achieved by seven child participants for BVA1. A similar trend can be seen in the BVA2 standard scores with three child participants achieving *superior* standard scores and three achieving *very superior* standard scores. The group's average L1 OVA standard score, BVA1 standard score, BVA2 standard score and MVA standard score were all very high. The group average standard score for OVA in L1 was *high average*. The BVA1 and BVA2 group average standard scores were very close: 126.3 for BVA2 and 127.6 for BVA1. Both BVA average standard scores are considered *superior* scores. Finally, the group average MVA standard score was the average highest at 137.3, a *very superior* score.

### **6.5.3 BVAT-NU OVA, BVA1, BVA2, and MVA CALP Scores**

The table below shows the child participants and group average CALP scores in the BVAT-NU.

**Table 39:***BVAT-NU OVA, BVA1, BVA2 and MVA Scores*

Child Code	BVAT-NU OVA, BVA1, BVA2 and MVA Scores			
	OVA L1	BVA1	BVA2	MVA
B12	5	5	5	6
G7	4	5	4.5	6
G19	5	6	6	6
B13	4	5	5	6
B16	4.5	6	5	6
B6	5	5	5	6
B18	5	5	6	6
Average	4.5	5	5	6

Table 39 shows the pilot group child participants' L1 OVA, BVA1, BVA2 and MVA CALP scores were 4 (*fluent*), 4.5 (*fluent to advanced*), 5 (*advanced*) or 6 (*very advanced*). All the child participants increased their L1 OVA scores from CALP 4, 4.5 or 5 to CALP 6 (*very advanced*) scores for MVA. Two child participants also scored CALP 6 (*very advanced*) for BVA1 and two child participants scored CALP 6 (*very advanced*) for BVA2. One child (G10) scored CALP 6 (*very advanced*) for BVA1 and BVA2. Two child participants scored the CALP 5 (*advanced*) score for OVA, BVA1 and BVA2 (child B6 and B12). Four out of seven child participants scored lower CALP scores for L1 OVA compared with one or both BVA scores. The group's average MVA CALP score was highest at CALP 6 (*very advanced*). After this, the next highest were the BVA1 and BVA2 average CALP scores of 5 (*advanced*). The lowest average CALP score was the L1 OVA CALP score of 4.5 (*fluent to advanced*).

## **6.6 Pilot Group Parent Interview Data**

The data presented in this section comes from approximately twelve hours of interviews conducted with the parents of the children who participated in the BVAT-NU testing discussed in the previous sections of this chapter. The purpose of interviewing the parents of the child participants was based on a standard approach recommended to clinicians when assessing children for learning disabilities (Busse & Beaver, 2000), as well as on ethical considerations that recommend that any research on children must be directly beneficial for them (see Chapter 5, section 5.1.14). Including parental interviews in the research discussed here not only provides a forum for the parents to talk about their personal experiences and their experiences of raising a multilingual child, but also a forum to discuss the results of their child's BVAT-NU testing in relation to their child's multilingual development. The parent interviews were designed to extract information and opinions, and to understand the BVAT-NU results. The parents spoke freely, sharing many personal details and experiences, as well as their beliefs and opinions about language learning. Full transcripts can be found in Appendix 5.

### ***6.6.1 Interview 1 Common Trends***

The adult participants in the two interviews at the international school were all parents of the children taking the BVAT-NU tests as part of this research. Whilst not intentionally selected as such, all interviewees were the participants' mothers. The first interviews all occurred before the child participants took the BVAT-NU tests and they were semi-structured in nature. Several topics were brought up during the interview to guide the parents' responses (see Appendix 4). The topics included general information on immediate family members and

caregivers in the home and extended family members, as well as questions related to their child's experiences of, and exposure to, different languages. Lastly, the adult participants in the first interview were asked to predict their child's BVAT-NU performance.

***Level of Education of Parents.*** All the child participants' mothers have completed both undergraduate and postgraduate level degrees. The postgraduate degrees included Law, International and European Law, Economy Theory and International Economy, Global Leadership Development with Adult Learning, Economics, Banking and Finance. The undergraduate degrees included Economics, International Relations and Political Science and Law. Four child participants' mothers studied postgraduate degrees in a language that was different from the language they studied their undergraduate degrees in. Undergraduate and postgraduate languages of study were either English, Spanish or French. Five out of seven child participants' fathers were reported to have postgraduate degrees, which included Engineering and Economics. Four child participants' fathers were reported to have studied their degrees in languages other than their first languages.

***Parents' Multilingualism.*** All the child participants' mothers speak four or more languages. Four child participants' mothers reported being able to speak four languages, and three mothers reported being able to speak five languages. The languages spoken by the child participants' mothers included English, French, German, Kabyle, Portuguese, Russian, Spanish and Ukrainian. Four out of the seven child participants' mothers had bilingual upbringings, and four mothers had grown up in families who had either emigrated or were globally mobile, or have mixed nationality backgrounds. All the child participants' fathers speak two or more languages. Four fathers were reported to speak three languages, two reported to speak four languages and one reported to speak two languages. The languages spoken by the child participants' fathers include English, French, German, Portuguese,

Russian and Spanish. Six child participant's fathers were reported as having monolingual upbringings, and only one father was reported to have a mixed nationality and a globally-mobile upbringing.

***Employment Status of Parents.*** Most of the child participants' mothers were not employed at the time of the interviews. Only two of the seven child participants' mothers were employed. All seven child participants' fathers were reported as working at the time of the interviews.

***Parents' Initial Meeting Location.*** Four of the child participants' parents met in a country that was different from where both parents had grown up.

***Additional Childcare (Nannies).*** All the child participants had extra childcare growing up. Three child participants had nannies who spoke with them in a different language than that of the family. Three child participants had nannies who spoke with them in the same language as one of their parents.

***Child Participants' Language Learning Experiences.*** All the child participants in this pilot group were exposed to English between the age of thirteen months and six and a half years old. Two child participants were exposed to English before the age of eighteen months (B6 and G7), three child participants were exposed to English between the ages of three and three and a half years (B13, G19, B12), and two child participants were exposed to English after the age of five years old (B16 and B18). Five child participants were reported as having had speech and language development issues when they were very young. Six of the child participants were exposed to early childhood schooling in a language that was different from one of the languages spoken at home by their mother or father. Four child participants experienced bilingual schooling early in their childhood.

**Child Participants' Schooling.** During the first interviews the parents of the child participants talked about their child's experiences of school and the languages in which they were taught. Table 10 in Chapter 5 shows information about the child participants' home languages (L2 and L3) and languages experienced in school. Schooling in Table 40 includes part-time or full-time attendance at a childcare facility, referred to as a 'nursery', 'preschool', 'pre-kindergarten' or 'kindergarten'. Table 40 also includes the current school of the child participant.

**Table 40:**

*Pilot Group Child Schooling Information*

Child Code	Pilot Group Child Schooling Information							
	Actual Age (years-months)	L2	L3	No. of Home Languages	No. of Countries Resided In	No. of Schools Attended	Languages of Schools	No. of Additional School Languages (different from L2 or L3)
B12	7-0	Portuguese	German	2	2	2	Mandarin Chinese, English	2
G7	7-7	French	Italian	2	2	2	English, German	2
G19	9-4	French	Italian	2	2	3	English, French, German, Italian	2
B13	9-7	Russian	French	2	1	1	English	1
B16	10-4	French	Spanish	2	2	3	English, German	2
B6	10-6	German	Spanish	2	2	2	English, German	1
B18	11-0	Portuguese	French	2	2	5	English, French, German	2
Average	9-3	-	-	2	1.9	2.6	-	1.7

Table 40 shows that most child participants in the group had lived in two countries at the time of testing. The child participants had attended between one to five different schools

in one to four different languages. The group average for number of schools attended was 2.6 schools and the average number of languages in which the group had been educated was 2.3 languages. Every child participant had experienced schooling in a language that was different from his or her L2 or L3 at the time of testing, and only three child participants had ever experienced any schooling in his or her L2 or L3.

### ***6.6.2 Common Topics Reported in Interview 1 (See Appendix 5 for transcripts)***

In the first interviews conducted, the child participants' mothers discussed their and their partner's experiences of travelling to and living in different countries. The parents talked about having international careers, working in English and other languages, and one parent talked about dreaming of being an expat when she was younger. They discussed their own language learning experiences and the language learning experiences of the children's other parent. Many parents mentioned their own love of learning languages and how they wanted their children to learn several languages. Some parents discussed how the fathers had learned their languages when they were young, and they talked about them speaking various dialects.

The child participants' parents described how family members often switch languages at home, and how the children use different languages in different contexts. They discussed how they control their children's language exposure by organising visits to relatives, enrolling the children in additional language classes, changing the language settings on electronic devices, and choosing the language in which the children can consume media. In the first interviews, the parents talked about how (if their child has a sibling) siblings mix, or do not mix, their languages when speaking together.

Several child participants' parents talked about how English was increasingly being used by their children, 'taking over' their linguistic repertoire. They described their children

choosing to speak English together when in groups of international school children, using English as a *lingua franca*. They described how their children were able to use their different languages with speakers who also spoke the same languages, and how the choice of language used often seemed based on the topic under discussion. However, some observed that the children would use English instead of another language, even when the children could communicate in a language other than English, and another language seemed more appropriate in a given context.

In Interview 1, some of the parents reported that their children had very high proficiencies in their languages, but five out of the seven child participants' parents explained that their children had had speech and language development issues when they were very young. Some parents mentioned their children were 'late talkers', and that they consulted speech therapists about this. One parent recalled having a bilingual speech therapist evaluate her child in two languages. The speech therapist then informed her that her child simply needed more time to develop her speech, and that there were no concerns. Another parent reported a speech therapist not being able to assess her child's speech issue because the therapist did not know which languages to assess, and so assessed the child's motor skills instead. The parent recalls that the therapist was not able to tell her why her child was not speaking. Two parents spoke about their children having stuttering issues. One parent said her child stuttered around the age of three years old whenever he was trying to say something, in any language. She recalls speaking to her doctor about this and that her doctor said it would go away. The parent reported the stuttering stopped six to eight months after seeing the doctor. Another parent also talked about stuttering, stating that it was an ongoing issue that her child was receiving therapy for. She reported that her child's stuttering was linked with stress and that the severity of the stuttering was linked to the child's fluency in the language

the child was stuttering in. She stated that the child's stuttering was fine when her child spoke his L3 because he was not particularly fluent in that language. One parent mentioned that her child was diagnosed with dysorthographia and dyslexia; she also recalled her child having a remarkable memory, and that he would learn books off by heart and pretend to read them to her.

Several parents talked about the challenges of raising multilingual children. They hoped for their children to communicate more in their different languages, but also acknowledged the additional workload of supporting many different languages. The parents reported the challenges of wanting to encourage their children and influence them to develop and use their many languages, but without being seen to force the children into it. One mother specifically talked about using the One Parent One Language (OPOL) approach and how difficult it was to stick to when there are multiple languages being used in a (busy) family life. One interesting observation reported by a parent was how their child used their languages to emotionally manipulate the parents, choosing to use the language their parent wanted them to use to get something from that parent. Some parents talked about the role of their extended families in providing single-language environments that immersed their child in that language. Additionally, some parents expressed concern about the cultural disconnection of being an international multilingual child, sometimes referred to as the 'third culture kid' ('TCK') identity. One parent was concerned that her child would not have a strong sense of belonging to a place because she believed language develops a child's identity and sense of belonging. Another parent mentioned how her and her husband had strong national identities, but that her international child did not. She questioned how her child's cultural identity would develop. Finally, some parents discussed other people's attitudes towards their child's multilingualism. One mother recalled being advised to reduce the

number of languages her child was developing because one of the child's languages was not 'good'; she was informed that stopping a language would help. Another mother explained that negative comments about their child's multilingualism usually came from people who do not have multilingual children themselves or are themselves monolingual.

### ***6.6.3 Interview 2 Common Trends***

The adult participants in the two interviews at the international school were the parents of the children taking the BVAT-NU tests as part of this research. The first interviews all occurred before the child participants took the BVAT-NU tests and common trends, and topics from these are discussed in section 6.6.1 and section 6.6.2. The second interviews were all conducted with the same parent as the first interview, and occurred after the children had completed his or her BVAT-NU testing (see Appendix 3 for schedule). The focus of the second interview was to share the results of the child's BVAT-NU testing and talk about their reaction, or anything else they wanted to share about their child's language learning. The second interview was also an occasion to ask follow-up questions regarding anything talked about in the first interview. Like the first interview, the second interviews were semi-structured. To begin, the child's results were explained to the parent. After that, the parents were asked if the results were surprising or as expected, and to give explanations of the basis of their opinions.

***Parental Prediction of Child Performance in BVAT-NU.*** Five out of the seven parents incorrectly predicted their child's language performance in the BVAT-NU test. Three parents underestimated their child's performance in either L2 or L3. Two parents overestimated the L2 or L3 results, and underestimated L1 (English) performance. The other two parents' predictions were consistent with the BVAT-NU results.

#### ***6.6.4 Common Topics Reported in Interview 2***

In the second interview, most of the parents said they were reassured by the language testing results. Many parents wanted to explain or have explained the results in the interviews; as a result, few new topics emerged in the second interview.

Some parents again talked about how English is 'taking over' their children's language use. They mentioned their children forgetting words in their L2 and/or L3, or how they needed to focus on more formal language learning for L2 and/or L3. One observation made by a parent was that every time her child attended a local activity which would help her practice the local language, the child would always befriend the English-speaking child in the activity. Some parents felt that the relationships they had with family members, nannies and other children affected the results. One parent observed that her child does not understand language nuances, such as jokes, and that she suggested this was a key difference between a native speaker and a bilingual person.

In the next chapter, the findings from the BVAT-NU testing presented in sections 6.1-6.5 of this chapter are closely scrutinised, as well as the trends noticed in the interviews with parents in section 6.6. All findings will be discussed in relation to the research and discourse presented in the earlier chapters, and areas in need of further research will be noted. The pilot group data has also been used to create typical profiles for a multilingual child

educated in an international school (see section 3.8), and important considerations for people who evaluate what is typical and atypical language development in these children will be identified. Finally, the approach taken in this pilot study will be critically evaluated, which will lead to a proposal for the methodology a larger-scale version of this research should employ.

## **CHAPTER 7: Findings**

In this chapter, the general findings of the BVAT-NU testing together with the trends from the parent interviews will be discussed. The findings are compared to the academic discourse presented in this thesis, as well as to some additional relevant research not previously mentioned. The pilot research project is evaluated and suggestions given regarding how research could be conducted on a larger scale. Some comparative and longitudinal research projects based around this pilot project are also presented. Finally, key considerations for clinicians and educators who evaluate children like those who took part in this project are addressed and several avenues for new research are suggested.

### **7.1 Interpreting Multilingual Children's Standardised Test Performance**

In Chapter 6, some of the results from the BVAT-NU tests were reported using common scoring systems used by clinicians and educators, namely raw scores, age-equivalent scores, standard scores, and Cognitive Academic Language Proficiency (CALP) scores. The rationale behind using and discussing the results using these scoring systems was to address the fact that clinicians and educators use different standard test scoring systems for different reasons. Sullivan et al. (2014) explain that each test scoring system provides different information on a child's performance in a given test, and that 'one score may indicate performance slightly below average while another score suggests serious weaknesses' (p.288). Unfortunately, some scoring systems, such as age-equivalent scoring (as discussed in Chapter 5, section 5.2.3), have historically been used to identify language impairments and are favoured by some practitioners despite evidence that they may be

subject to misinterpretation (Sullivan et al., 2014, p. 279). By presenting findings using multiple scoring systems, it is hoped that any differences between scoring systems will be spotlighted, allowing a typical performance for the pilot group to be established. As discussed previously, the pilot group findings are not generalisable due to the small sample size, and so the aim of this section is not to suggest that these findings are necessarily representative for multilingual children from high-SES families educated in international schools, but rather that the findings represent the group of seven transnational multilingual children from high-SES families who participated in this project (and, above all, are derived from a methodological and interpretive template that could be used for larger studies in future). The findings from this pilot project will be discussed in relation to existing research and discourse with the aim of pinpointing where misinterpretation or misunderstanding of language acquisition in this group can exacerbate misdiagnosis for SLI.

As mentioned, different scoring systems provide different information. In Table 41 below, the pilot group's average results in each test (Picture Vocabulary, Oral Vocabulary and Verbal Analogies) in each scoring system are presented for L1, L2 and L3 to illustrate how they describe the same performance in different ways.

**Table 41**

*Group Average of Transient Multilingual Children from high-SES families in an International School: BVAT-NU Performance Using Different Scoring Systems*

BVAT-NU Test	Scoring System	Language		
		L1 (English)	L2	L3
<b>Group Average Performance of Child Participants in BVAT-NU Picture Vocabulary</b>	Standard Score with interpretation	114.3 High Average	96.1 Average	86.6 Low Average
	Age-Equivalent Score compared with group average actual age of 9-3	12-1 + 2 years, 10 months	8-2 -1 years, 1 month	7-2 - 2 years, 1 month
	CALP Score with interpretation	CALP 4.5 Language level to cope with schooling is classified as <i>easy</i> .	CALP 3.5 Language level to cope with schooling is classified as <i>difficult</i> .	CALP 3 Language level to cope with schooling is classified as <i>very difficult</i> .
<b>Group Average Performance of Child Participants in BVAT-NU Oral Vocabulary</b>	Standard Score with interpretation	106.9 Average	102 Average	98.4 Average
	Age-Equivalent Score compared with group average actual age of 9-3	10-8 +1 year, 5 months	10 + 9 months	9-1 - 2 months
	CALP Score with interpretation	CALP 4 Language level to cope with schooling is classified as <i>manageable</i> .	CALP 3.5 Language level to cope with schooling is classified as <i>difficult</i> .	CALP 3.5 Language level to cope with schooling is classified as <i>difficult</i> .
<b>Group Average Performance of Child Participants in BVAT-NU Verbal Analogies</b>	Standard Score with interpretation	111.3 High Average	107.3 Average	111.6 High Average
	Age-Equivalent Score compared with group average actual age of 9-3	12-2 +2 years, 11 months	14-2 + 4 years, 11 months	11-11 +2 years, 8 months
	CALP Score with interpretation	CALP 5 Language level to cope with schooling is classified as <i>very easy</i> .	CALP 5 Language level to cope with schooling is classified as <i>very easy</i> .	CALP 4.5 Language level to cope with schooling is classified as <i>easy</i> .

As the raw data for each participant in the group was used to create the different types of scores, Table 41 allows a comparison to be made between standard score result interpretations, age-equivalent scores and the CALP levels. The table shows that age-equivalent scores should be interpreted as a score within a range, as it is possible to obtain an average standard score and at the same time a corresponding age-equivalent score that is lower or higher than the actual age of the individual taking the test. Table 41 illustrates how misleading age-equivalent scoring can be if a low age-equivalent score is interpreted to mean there is a deficit, a demonstration that supports the suggestion of Sullivan et al. that age-equivalent scores can be misinterpreted ('they are not as simple for non-experts to interpret as they may appear' [p.280]). The table shows how standard scores are less open to misinterpretation because they include a clear deviation range. The comparative score table above supports Sullivan et al.'s counsel that standard scores are 'more appropriate for high-stakes decisions, such as diagnosis, placement, and need for intervention' (p.281). Finally, Table 41 shows how CALP scores correlate to standard scores and age-equivalent scores. Similar to age-equivalent scoring, it is possible to get high and low CALP scores while also obtaining an average standard score. It is possible that CALP scores are associated more with age-equivalent or grade-equivalent scoring, or correlate to upper and lower ends of the standard deviation range. The comparative table shows that the use of CALP scores alone may underestimate an individual's abilities, which may be more accurately determined by using a standard scoring system. As mentioned in Chapter 5 (section 5.2.5) of this thesis, American school psychologists, for example, often use CALP scores alone when making educational decisions for bi- and multilingual children, a practice that risks underestimating these students' linguistic competencies.

## 7.2 Pilot Group Findings

### *7.2.1 Pilot Group Main Findings and Discussion: Picture Vocabulary (Expressive Language Single-Word Knowledge)*

The BVAT-NU Picture Vocabulary test measures an individual's expressive language single-word semantic knowledge (Muñoz-Sandoval et al., 1998, p. 2). Firstly, the findings from this pilot project show that this group of children's expressive language single-word semantic knowledge in each of the languages usually tested fell in the average range of the standardised score. In general, their performance in this vocabulary test was best in English ('High Average'), followed by performance in their L2 ('Average') and then in their L3 ('Low Average'). Secondly, when their performance on the test was scored using age-equivalent scoring, the results were more varied. Interestingly, there was a greater range of scores in the L2 and L3 versions of the test compared to the scores for the L1 test. In general, the group performance was below their actual age for this expressive single-word task in the L2 and L3 versions compared to the L1 English version. Thirdly, the findings from the CALP results suggest that on average, the children should find schooling that requires expressive language single-word semantic knowledge, relatively easy in English, and more difficult in L2 or L3. Finally, in general, the pilot group's multilingual expressive language single-word semantic knowledge was slightly higher (3.3%) than in the single language L1 English. In general, the children knew 83% of the words assessed in more than one language compared to only one language. These findings suggest that these multilingual children's combined expressive language single-word semantic knowledge is greater than their expressive language single-word semantic knowledge in the language of instruction at school (English).

In short, evaluating these children's expressive language single-word semantic knowledge in one of their languages runs a high risk of underestimating their overall linguistic ability.

These findings suggest that these multilingual children's expressive language single-word semantic knowledge in each of their languages is average when compared to a normed group. While there were performance differences between L1, L2 and L3, the performances, in general, were still average in every single language. Moreover, if these multilingual children's expressive language single-word semantic knowledge in each of their languages are judged using age-equivalent scoring, they show an average performance above their actual age in L1 English, and below their actual age in the L2 and L3. Evaluating these children's expressive language single-word semantic knowledge in one of their languages only shows a stronger performance in English. It also shows that using age-equivalent scoring could mean these children's expressive language single-word semantic knowledge in their L2 and L3 could be misinterpreted as a deficit.

Finally, the findings suggest that these multilingual children, who were being educated in an international school where the language of instruction is English, should find educational practices that require them to use expressive language single-word semantic knowledge in English to be 'easy'. It suggests that were these children to change to a school where the language of instruction was the L2 or L3, they would likely find tasks that required them to use expressive language single-word semantic knowledge in those languages to be 'difficult'.

There are several possible reasons for the strong English performances when we look at the experiences the children have had, as reported in the parent interviews. Firstly, all the multilingual children who participated in this research had been educated for more than a year at a school where English was the language of instruction, and they had all been exposed

to English between the ages of thirteen months and six and a half years old. Secondly, in the parent interviews (see Chapter 6, section 6.6, and Appendix 5), several parents mentioned how English was becoming the more dominant language in their children's lives, and that it was a *lingua franca* for some children, even if the children were fluent speakers of another language. Some parents also referred to their children forgetting L2 or L3 words (see Chapter 6, section 6.6.2 and Appendix 6). Finally, in the discourse on language exposure, proficiency and dominance (see Chapter 2, section 2.8), the correlation between exposure to rich and varied input and expressive lexical performance may account for the strong English performance of the group.

The children's lexical performance differences in each language were not surprising given the discourse on bilingual children and lexical testing, but there were some other findings that were less expected. As Anaya et al. (2018), Bialystok et al. (2010) and Hemsley et al. (2010) have all found, bilingual children can perform worse in standardised vocabulary testing in one or both of their languages than their monolingual peers. Furthermore, as indicated by the research of Pearson and Fernandez (1994), Junker and Stockman (2002), Pearson, et al. (1995), Quay (1995) and Patterson and Rodríguez (2005), bilingual children also tend to have smaller lexicons in each of their languages when compared to monolinguals. In line with this research, using the standard scoring system alone, the average finding from the group was that these multilingual children typically performed worse in standardised vocabulary testing in one of their languages when compared to their monolingual peers, but not in two of their languages. Four out of the seven children had experienced some schooling in their L2 or L3; it is reasonable to infer that if they had not had this experience, it is likely their vocabulary scores would have been even lower.

The pilot project interviews also showed that the mothers had very high levels of education. Paradis (2011) points out that ‘higher maternal education [is] associated with more advanced language development in bilingual and L2 children’ (p. 217) because post-secondary educated mothers are said to have larger vocabularies in their languages and tend to use their L1s more (p. 218). Scheele et al. (2010) explain that the socio-economic status may also affect the *quantity* of input, and the mother’s level of education may affect the *quality* of input.

Looking at the individual child participant performance, their expressive language abilities at a single-word level in their L2s or L3s were more varied; specifically, some children’s results displayed a greater range of competencies in their L2 and L3 languages compared to L1 (English). As mentioned in my discussion of the language abilities of bi- and multilingual children, competencies are subject to fluctuations because of many factors (see Chapter 3, section 3.6, referring to Toppelberg & Collins, 2010). Some of these factors are discussed in Chapter 3 (section 3.11) and include the language policies of the schools these children attend, the language exposure the children have and the assimilation and acculturation pressure they experience, as well as their exposure to monoglossic attitudes and practices. The findings from the pilot research would support the notion that it could be typical for multilingual children from high-SES families to have fluctuating lexical competencies in languages they have not been educated in for more than a year and are currently being educated in at the time of evaluation.

The finding that the children’s expressive language abilities at a single-word level were slightly higher when all their languages are combined (‘multilingual score’) compared to single-language performance supports the Dynamic Model of Multilingualism tenet that there are benefits to viewing multilingual children’s total-language repertoire (see Chapter 2,

section 2.9). Academic discourse consistently suggests that bilingual children's actual knowledge of vocabulary is often underestimated because their language performance is only evaluated in one of their languages, which is then judged against monolingual performance in that language (see, for example, Pearson & Fernandez, 1994; Junker & Stockman, 2002; Pearson, Fernández & Oller, 1995; Quay, 1995; Patterson & Rodríguez, 2005). The findings from the pilot study reflect that these children's multilingual vocabulary knowledge was indeed higher than their English vocabulary alone, albeit slightly.

Peña et al. (2002) and Ananya et al. (2018) examine the extent to which lexical items are known in one language or more than one language in bilingual children. The results of the pilot group's vocabulary knowledge across languages differs from Peña et al.'s (2002) findings, who found that their bilingual child participants knew 65% of vocabulary items in only one language (Peña et al., 2002). The results from the pilot group of multilingual children show the opposite, with a much lower percentage of vocabulary items known in only one language (30%). Another finding was that the multilingual children knew a much higher percentage of single lexical items tested in more than one of their languages than in only one of their languages. The percentage range for multilingual lexical knowledge was between 72% and 92%, showing the breadth of that knowledge. The findings from my pilot research show that the multilingual children tested knew more lexical items in more than one language than in only one language alone, but because the multilingual gain compared to the English performance was small, if these children did not know a word in English, the probability that they knew it in another language was also small (a result, that if replicated at a larger scale, could form the basis of a generalisable tendency).

### ***7.2.2 Pilot Group Main Findings: Oral Vocabulary (Receptive & Expressive Word Meanings)***

The BVAT-NU Oral Vocabulary test measures an individual's receptive and expressive language word-meaning knowledge (Muñoz-Sandoval et al, 1998, p. 2). Firstly, the findings from this pilot project show that this group of children's receptive and expressive language word-meaning knowledge in each of the languages tested on average were very similar and fell in a standardised score average range. Secondly, in general, the pilot group's receptive and expressive word-meaning knowledge was stronger in their L1 (English, the language of instruction at the international school) and their L2 (a home language). The children's performances when calculated using age-equivalent scoring, were above their actual ages in two out of the three languages and below in one. Thirdly, the findings from the CALP results suggest that on average, the children should find schooling 'manageable' in English and 'difficult' in L2 or L3. Finally, in general, the pilot group's multilingual receptive and expressive word meaning knowledge was significantly higher than in any language alone, an increase of 40% over the single-language L1 English.

The BVAT-NU oral language test comprises two subtests: the synonym test and the antonym test, so a performance comparison was possible. In general the participants' multilingual receptive and expressive word-meaning knowledge of synonyms in all their languages combined was significantly higher than in any one language alone, with an increase of 54%, and the participants' multilingual receptive and expressive word meaning knowledge of antonyms in all their languages combined was significantly higher than in any one language alone, with an increase of 31%. In general, the children knew 61% of the test items in more than one language compared to a single language, and so had significantly more bilingual or multilingual knowledge of the items than single language knowledge.

The findings suggest that these multilingual children's combined receptive and expressive word-meaning knowledge is significantly greater than their receptive and expressive word-meaning knowledge in the language of instruction at school (English). Evaluating these children's receptive and expressive word-meaning knowledge in one of their languages alone could significantly underestimate their overall linguistic ability.

The findings suggest that these multilingual children's receptive and expressive word-meaning knowledge in each of their languages is average when compared to a normed group. The findings suggest that when these multilingual children's receptive and expressive word-meaning knowledge in each of their languages are judged using age-equivalent scoring, they show an average performance above their actual age in L1 (English) and L2, and only slightly below their actual age in L3. Evaluating these children's receptive and expressive word-meaning knowledge in one of their languages only shows a slightly stronger performance in L1 and L2. It also shows that using age-equivalent scoring could mean these children's receptive and expressive word-meaning knowledge in the L3 could be misinterpreted as a deficit.

Finally, the findings suggest that these multilingual children who were being educated in an international school where the language of instruction is English should find this 'manageable'. It suggests that were these children to change to a school where the language of instruction was the L2 or L3, they would likely find this 'difficult'.

There are several possible reasons for the balance in performances across languages when we look at the typical experiences of international school children. Peña et al. (2003) conducted research that focussed on bilingual children's performances on semantic tasks and found that the bilingual children's performances were similar to the monolinguals (2003). The findings from this pilot research support their finding because the multilingual children

performed within the average standard deviation range in each of their languages. In the previous section, there is a more unbalanced performance in L1, L2 and L3 for expressive language single-word knowledge than for receptive and expressive word-meaning knowledge. One of the reasons why there could be less fluctuation in language performance for word knowledge is that bilingual children may be able to understand word meanings and develop greater awareness of the relationship between words in their languages earlier than monolinguals (Bialystok, 2009; Pearson et al., 1997); in addition, there could be more cross-linguistic transfer in semantic organisation (Sheng et al., 2006, p. 3). Sheng et al. (2006) refer to research they conducted on bilingual children in lexical-semantic organisations. One of their findings was that the bilingual children's performance was not significantly better when they were tested in both languages compared to being tested in only one language (p. 12). Interestingly, the pilot project finding shows the opposite because the multilingual children all made significant multilingual gains when retested in their L2, L3 and L4. In fact, the multilingual gain for word meaning was significantly higher in both the synonym and the antonym tasks.

In Chapter 3 (section 3.8) of this thesis, as well as in previous sections of this chapter, I discuss the possibility that the amount of language a bilingual is exposed to and the quality of that language exposure could both affect bilingual performance in receptive and expressive tasks. As seen in Table 40 the linguistic experiences of the multilingual children who participated in this research are complex, with the children being exposed to several languages in both formal and informal contexts. For multilingual children, the amount of exposure they receive in each of their languages could be lower when compared to bilingual children, and yet the finding from this pilot project for word-meaning suggest that the threshold of exposure to reach monolingual norms is lower (findings that would need

replication at a larger scale to be truly significant). In Chapter 3 (section 3.10), elitist and privileged bilinguals are discussed in terms of how the acquisition of languages is seen by families of high socio-economic status as advantageous. In the parent interviews (Chapter 6, section 6.6), parents talked about how important it is for their children to learn languages. One of the findings from the parent interviews was how multilingual the parents were and how many mothers had grown up in bilingual situations and pursued education and work in different languages (Chapter 6, section 6.6.1). It could be that the multilingual gains seen in the oral language testing with these multilingual children could be as a result of the priority their families place on their multilingualism, and the amount of attention these families give to maintaining several languages (See Chapter 5, section 5.4).

### ***7.2.3 Pilot Group Main Findings: Verbal Analogies (Receptive and Expressive Language Analogies)***

The BVAT-NU Verbal Analogies test measures an individual's receptive and expressive verbal reasoning (Muñoz-Sandoval et al., 1998, p. 2). Firstly, the findings from this pilot project show that this group of children's receptive and expressive verbal reasoning in each of the languages tested were, on average, similar, and fell in the average range of standardised scores. The children's individual performances show that their receptive and expressive verbal reasoning in any of their languages could also be significantly higher than average. Secondly, using the standard scoring, in general the pilot group's receptive and expressive verbal reasoning was stronger in their L1 (English, the language of instruction at the international school) than their L3 (a home language). However, when the children's performances when scored using age-equivalent scoring, in general they performed above their actual ages in *all three* languages, with the highest score being in the L2. The

multilingual children's receptive and expressive verbal reasoning was significantly higher than their actual age in at least one of their languages. Thirdly, the findings from the CALP results suggest that, in general, the children should find schooling that requires receptive and expressive language word-meaning knowledge 'very easy' in English and L2, and 'easy' in L3. Finally, in general, the pilot group's multilingual receptive and expressive verbal reasoning was significantly higher than in any one language alone, an increase of 49% over single-language L1 (English). In general the children knew 66% of the words assessed in more than one language compared to only one language.

The findings suggest that these multilingual children's combined receptive and expressive verbal reasoning is significantly greater than their receptive and expressive verbal reasoning in the language of instruction at school (English). Evaluating these children's receptive and expressive verbal reasoning in L1 (English) alone could significantly underestimate their overall linguistic ability. The findings also suggest that these multilingual children's receptive and expressive verbal reasoning in each of their languages is average when compared to a normed group. When these multilingual children's receptive and expressive verbal reasoning in each of their languages is judged using age-equivalent scoring, they perform above their average age in their languages. Evaluating these children's receptive and expressive verbal reasoning in one of their languages alone shows a slightly stronger performance in the L2. In general, for receptive and expressive verbal reasoning, the tests could not be interpreted or misinterpreted as a deficit in any of the scoring methods. Finally, the findings suggest that these multilingual children should find education that requires them to use receptive and expressive verbal reasoning in English 'very easy'. It suggests that were these children to change to a school where the language of instruction was the L2 or L3, they

would likely find tasks that required them to use receptive and expressive verbal reasoning in those languages ‘easy’.

The findings from the pilot research supports and extends some academic discourse on bilingual adults and their performance on verbal reasoning tasks. Ferrierra et al. (2018) conducted research on the ‘bilingualism effect’ on cognitive and auditory abilities in adults. They found that bilinguals performed better in verbal reasoning tasks than monolinguals. Although the findings from this pilot research shows the multilingual children performed within the average range for the verbal analogies task, they performed significantly higher than their actual age in one of their languages. In addition, their multilingual ability compared to individual language ability was significantly higher. Fillipi et al. (2012) suggest that bilinguals may perform better on verbal skills tests because of greater cognitive control and attention. Krzemien et al. (2020) propose that poor inhibition control can affect an individual’s performance in analogical reasoning tasks. My findings with this small group of multilingual children shows that they performed in the ‘average’ or ‘above average’ range in at least one of their languages for this task, which may be the result of the cognitive advantage effects discussed in Chapter 2 (section 2.4), a result that could prove significant were it to be replicated at a larger scale.

Roomaney and Koch (2013) state that verbal analogy tests can be a ‘good measure of levels of cognitive functioning’ (p.3) and are useful at predicting academic success. Interestingly, the children’s CALP scores in the verbal analogies testing were higher than the other BVAT-NU tests, which suggests that the children could find schooling ‘manageable’, ‘easy’ or ‘very easy’ in any of their languages. Roomaney and Koch (2013) and Krzemien et al. (2020) also explain that individuals use their knowledge of vocabulary and their cognitive abilities to understand the relationships between words. However, based solely on a

comparison between the results of these participants' picture vocabulary standard scores for each language (22 language standard scores in all) and their performance on the verbal analogies test, it can not be conclusively stated that these results show a connection.

Four out of twenty-two language test results showed an inferior/borderline score for picture vocabulary corresponding with a low average/average/high average score for verbal analogies, so their score was 'low' for picture vocabulary and 'high' in the verbal analogies. These four results do not appear to support the supposition that knowledge of vocabulary and verbal analogies results positively correlate, but my sample size is too small to make significant conclusions and would require large-scale replication to do so. The eighteen other language tests showed results that were within the standard deviation range or one or two standard deviations higher, so fewer conclusions can be drawn from the data generated by this project. The link between knowledge of vocabulary and performance on verbal reasoning tasks is an area worth more investigation, as would be cognitive ability and verbal reasoning performance; whilst it is beyond the scope of this pilot research, such inquiries should be incorporated into any potential larger versions of this experiment design.

#### ***7.2.4 Pilot Group Main Findings and Discussion: Multilingual Verbal Ability Versus Single Language Verbal Ability***

In general, the multilingual children's overall verbal abilities in each of their languages was average. When one home language was combined with English, in general, the children's bilingual verbal abilities increased from 'high average' to 'superior'. When all the languages were combined with English, in general, the children's multilingual verbal abilities increased from 'superior' to 'very superior'. In addition, the multilingual children in general knew more test items in more than one of their languages than only in one of their languages.

In general, the children's multilingual gains were much more significant in the verbal ability test sections that evaluated their receptive and expressive word-meaning knowledge and their receptive and expressive verbal reasoning compared with the testing that measured their expressive language single-word semantic knowledge. The multilingual children's performances in each of their languages was more varied in the test that measured single-word knowledge, and more similar in the tests that measured verbal reasoning and word meaning. The findings suggest that judging multilingual children's verbal abilities by testing them in a single language only or two languages only significantly underestimates their total verbal abilities. The finding suggests that multilingual children make less of a multilingual gain in the area of single-word knowledge than verbal reasoning and word meaning.

The multilingual children age-equivalent scores for single-word knowledge in their L2 and L3, as well as their word meaning knowledge in L3 were all, on average, lower than their actual ages. Despite the average age-equivalent score being lower than their actual age for these languages, their standard scores were still within the average standard deviation range. Were this finding to be replicated at a larger scale, it suggests that when testing a multilingual child's verbal ability using age-equivalent scoring in a single language only, some scores could be misleading.

The multilingual children's verbal abilities in English show they should find schooling in English 'easy', and the L2 'manageable'. The multilingual children's verbal abilities in the L3 show they could find schooling in the L3 'difficult'. The finding suggests that these multilingual children should be able to cope with schooling in the L1 or L2 and that they may have more linguistic challenges with schooling in their L3.

### ***7.2.5 Pilot Group Main Findings and General Discussion***

As mentioned at the beginning of this chapter, clinicians and educators use different standard test scoring systems for different reasons. The findings from this research project show significant differences in the children's performances in single languages compared to two languages combined, and even more significant difference when compared to all of their languages combined; such results suggest that clinicians and educators should be clear in their use of single language testing with multilingual children because this method tends to underestimate overall linguistic ability for any given test. In Chapter 4 (section 4.4), the assessment of a bilingual child in his or her language of schooling is discussed. Haman et al. (2015) state that assessing a bilingual child in the language of schooling is useful if the rationale behind testing in the single language is to establish academic potential in that language. However, they state that single language testing is not suitable when a diagnosis for language impairment is required. The research findings support that in order to establish a multilingual child's verbal language ability, one has to look at performance across languages.

One of the findings in this research project was the fluctuation in single language performance in the single-word knowledge test compared to relatively stable and similar performances in the word-meaning and verbal analogy tests. As discussed in Chapter 4 (section 4.4.1), measurements of lexical knowledge and processing are used when identifying developmental language disorder in bilingual children. Lexical knowledge is often used as a marker and, as mentioned previously, it is an area often misinterpreted by clinicians assessing bilingual children (see Armon-Lotem et al., 2015). The varied results shown in the lexical testing in this pilot group could mean that interpreting multilingual children's lexical knowledge through a single language in each language is more complex than it appears. The

findings from this research suggest that understanding single-language lexical knowledge in a multilingual can be helpful, but only when all languages are assessed. In addition, because of the overall high performance in the word-meaning and verbal analogy testing, including these in any linguistic/cognitive ability testing repertoire reduces the chance of misinterpretation or underestimation, especially as weaknesses in analogical reasoning are also well-established markers for developmental language disorder (Krzemlen, 2020, p. 3).

In Chapter 1, the holistic view of multilingualism is discussed. The belief that a multilingual should be viewed as someone with multiple competencies in several languages that when combined create a total-language repertoire is the core of the Dynamic Model of Multilingualism. The pilot research test findings support the notion that a multilingual child is not a monolingual dominant or a monolingual with a preferred ‘mother tongue’ along with additional ‘lesser’ languages added on (see Chapter 1, section 1.10). One of the findings from the interviews was that five out of the seven children’s parents incorrectly predicted their child’s proficiencies in their individual languages, with some parents overestimating English or the home languages, and some underestimating the home languages. Another commonly mentioned topic in the interviews was children and families language switching and language mixing. One participant explains that sticking to single language exposure by using the ‘One Parent One Language’ (OPOL) policy is very difficult because multiple languages are in use simultaneously with these multilingual children (see Chapter 6, section 6.6.2, and Appendix 5). The findings support the holistic view and the Dynamic Model of Multilingualism as theories that enable a multilingual child’s linguistic complexity to be viewed as a full state of being instead of single, disconnected parts.

### 7.3 Other Avenues Worth Investigating

The research project also identified several variables that may have influenced the performances of the multilingual children in the verbal ability tests that would benefit from further investigation. First, establishing the extent to which the mothers of multilingual children in international schools work and the extent to which the childcare they employ impacts a multilingual child's exposure to different languages in the home. Second, all the parents who participated had very high levels of education, but six out of seven mothers did not work. All the parents were multilingual and some had experiences growing up in bilingual situations. The extent to which the parental multilingual experience and/or migratory experience is transmitted from one generation to the next could help in understanding the extent to which multilingual children's languages are developed. One of the findings (see Table 40) was that the children had on average lived in approximately two countries, attended approximately two schools, and they had all experienced schooling in at least one language that was not a home language. The extent to which 'elite' multilingualism (see Chapter 2, section 2.10) counteracts any negative effects of school transition, or early schooling in different languages, is worth exploring further. Finally, almost all the multilingual children in this pilot group had identified speech and language issues when they were young, an interesting commonality that relates to the discussion presented in Chapter 4 regarding the challenges multilingualism poses to speech and language therapists attempting to identify delays in language acquisition and production. It would be worth exploring the extent to which 'late talkerism' is a typical experience for multilingual children from high-income families educated in international schools, and the degree to which such children are identified as 'late talkers' by speech and language therapists.

#### 7.4 Challenges of the Project and Considerations for Running it on a Larger Scale

The aim of this research project was to record and discuss the verbal abilities of a group of young multilingual children at an international school. As discussed in Chapter 6, the group that is the subject of this research, transnational multilingual children of high socio-economic status, is not the subject of much academic discourse. Firstly, research into children from families of high socio-economic status may be overlooked by researchers because the collecting of high prestige languages by elite classes is seen as ‘bourgeois’ and personally advantageous (see Chapter 2, section 2.10, and van Zanten, 2005). Language learning by these children is often assumed to be additive because languages are often regarded as desirable commodities. In fact, it is often bi- and multilingual children from middle- and low-income families that are regarded to be at risk of *subtractive* bi- and multilingualism (Guerreo, 2010). However, multilingual children from high-income families are also at risk of subtractive multilingualism. Secondly, as discussed in Chapter 3, section 3.4, high-SES families often migrate for employment reasons. They are highly-mobile units, and it is their mobility that makes them a difficult group to research. Additionally, the lack of research on high-SES transient children may also be due the challenge of justifying how a society can benefit from research conducted on a group that is not geographically anchored to one society or another, a group that occupies an ‘inter-’ space, ‘between’ societies, communities and nations. Often, individuals and families of high-SES are viewed as having positions of privilege and power, and so it is assumed they have financial, social and cultural funds that can safeguard their children from the sort of language-loss seen in lower socio-economic groups. As discussed in Chapter 3 (section 3.6), there is a false perception that multilingual

children can cope with several international school moves, when in fact they are at risk of developing what Hayden (2006) refers to as ‘fragmented language development’ because of frequent schooling changes that also involve changes of instructional language. Finally, as discussed in Chapter 1 (section 1.3), there exists a problematic, and likely false, notion that multilingualism is sufficiently similar to bilingualism so that results from research on bilingual children can be equally applied to multilingual children; that is to say, multilingual children are viewed as bilingual children with additional languages, rather than a group with their own distinct profile.

It is also worth highlighting that conducting research on young children is often off putting for researchers because of the extra ethical considerations needed. There is also additional complexity associated with childhood multilingualism; not only is it a period of linguistic fluctuation, but also a time with many compounding variables influencing the child’s development (see Chapter 2, section 2.6). It could be that chaos/complexity theory (see Chapter 1, section 1.8), and the Dynamic Model of Multilingualism (DMM), may be a useful entry point into discourse on multilingual children, especially as they both include references to biological systems as theoretical influences (Herdina & Jessner, 2002; Hensley, 2010). DMM provides a framework that not only aims ‘to provide a scientific means of predicting multilingual development on the basis of factors assumed to be involved’ (Herdina & Jessner, 2002, p. 87) but also provides an explanation for what it terms ‘positive’ and ‘negative language growth of a multilingual individual’s linguistic repertoire over time (ibid). It is clear that the acknowledgement and affirmation of any multilingual child’s full linguistic repertoire, as well as recognition of the linguistic fluctuation as a ‘normal’ phenomena, deserves academic research and discourse.

Both qualitative and quantitative data collection methods were used in this pilot study. First, the use of a comprehensive language test that could assess the children in all of their languages was necessary in order to obtain (numerically-expressed) data on each child's language ability in each separate language, as well as their language ability when two languages were combined (bilingual ability) and their ability when *all* of their languages were combined (multilingual ability). Second, a method of obtaining detailed information on each child's family situation, educational history and linguistic development was needed not only to aid the interpretation of the language data obtained from testing, but also to understand the common experiences of this group of children. It is important to note that the aim of the pilot project is not to present data that is immediately generalisable, as this is not possible given the number of participants. Instead, the rationale behind obtaining data from this pilot group is to suggest possible areas that a larger research study could investigate more, and to ameliorate the design for future attempts, to make it, for example, more efficient and/or accurate. Above all, perhaps, it is hoped this research project will provoke discourse and further study that will be useful to researchers interested in the typical and atypical language development of multilingual children from high-income families in international schools.

The BVAT-NU test was particularly useful because it was able to evaluate not only the children's individual language proficiencies, but also their bilingual and multilingual proficiencies. It was easy to use, quick to administer, and the *Scoring and Reporting Program of the BVAT* provides different scoring systems. However, a notable potential problem with the BVAT-NU test is that the version used is over twenty years old (1998). While many test items are still relevant today, some of the prompts may be dated, which may introduce a confounding variable relating to, for example, a test-subject's knowledge of 'historical objects' (like an old-fashioned telephone). In addition, the approach of testing a subject in one

language version of the test, and then testing the subject with the same test but, in a different language version, means that there could be a familiarity effect due to the test taker seeing the same items several times. While some standardised language tests have more than one version of a test to reduce familiarity effects, the BVAT-NU does not. It cannot be ruled out that the child participants were becoming familiar with some test items; however, the test performance would suggest that the familiarity did not transfer into progressively better performance in the L2, L3 and L4 versions of the test. Nevertheless, this is an important and potentially confounding variable that would need to be investigated further if similar research was conducted on a larger scale.

In spite of the fact that only seven children were used in this research (what must be its most significant weakness), even this small group posed a myriad of logistical problems for a single-researcher, which would undoubtedly be multiplied manyfold if the number of testees was significantly increased. The lessons learned from the setbacks experienced here could indeed be useful if this endeavor is attempted at a larger scale. Despite the small size of the pilot group, the logistics of organising and administering twenty-two tests in six different languages with five bilingual ancillary test administrators over three months was challenging, even considering that all tests were held at a single facility. In order to obtain generalisable test results, more participants would be necessary. It may also be useful to also include a non-verbal reasoning test to establish any link between non-verbal test performance and verbal test performance for this group of children. By increasing the number of child participants to one hundred for example, at least three hundred individual language tests would need to be organised, which would be a total time of approximately fifty hours of testing. In order to conduct this much testing within a three-month window, a group of test administrators, preferably bilingual or with access to ancillary bilingual test administrators, would be

necessary, and an additional research location with a similar profile may need to be found. Some type of research administrator would be needed at each location to ensure all logistics are handled smoothly, and, above all, that all child-protection measures are ensured.

Secondly, the parent interviews were important to include, not only because including them was essential to meet ethical considerations, but also because they provided some trends that help establish the linguistic, educational, and familial experiences of multilingual children from high-income families who attend international schools. A potential issue with the interviews was the small number of parents that took part (only six of the twelve parents). As pointed out in Chapter 6, whilst all parents were invited, only one parent of each child chose to participate, and in each case it was a mother. Attempts should be made to overcome both of these shortcomings in future research. Indeed, there are other possibly relevant individuals who were not (at least directly) included in these interviews, who could add to our understanding the children's linguistic development. The child participants themselves, for example, were not interviewed, and nor were any siblings, fathers, step-parents, caregivers, friends or extended family. While interviewing all these people is well beyond the scope of this research, the inclusion of their beliefs, perspectives and theories could well have been useful to a study of this kind, an important point to keep in mind when we consider Grills and Ollendick's (2002) findings that parents can underreport issues in interviews because they are either afraid of stigma or there are additional problems they may wish to avoid discussing (marital issues, for example).

Including interviews with the child participants could have been useful and helped reduce underreporting issues, but this may have caused additional problems to arise, especially as data collected through interviews with parents and data collected through interviews with offspring often poorly correlate (an interesting phenomena in and of itself, as

discussed by Grills & Ollendick, 2002, p. 78). In any case, a wider study may wish to include more interviews in order to support or counter the trends and themes identified in this pilot study, or identify additional themes not collected. It would be interesting for a larger study to include other family members and care-givers, and also the children to allow for some cross referencing of interview data. Additionally, the parent interviews were all conducted in English and not the parents' first languages. It would be interesting to establish whether using the community *lingua franca* affected the interviews, or if more details would emerge if their own home languages were used. It is important to note, however, that despite the small number of parent participants, the total interview time was approximately twelve hours. If the research was conducted with more participants, interview, transcription and analysis time would need to be considered, and would certainly be immense. The use of a team of competent interviewers and transcription software is highly recommended if available.

In the process of designing and evaluating the research, it became clear that several new avenues could be pursued that would add value to this project. Firstly, it would be greatly beneficial to run comparative research that could juxtapose performance on the tests conducted on multilingual children from high-income families at international schools with the performance on the same tests taken by multilingual children in stable migrant contexts in non-elite educational systems. It would also be useful to include more quality data on socio-economic status and educational status of the children's families to help address the extent to which these factors affect multilingual language development. Furthermore, a longitudinal study that follows a group of multilingual children from high-income families as they progress through schooling to document how these children's languages change over time and identify any correlation between familial practices and proficiency changes would be highly informative in this context. However, the international mobility of the children in

question would pose a clear challenge to the execution of any kind of longitudinal study.

Such a research design would need to include a particularly high number of participants so that any 'losses' due to transnational moves would not overly adversely affect the robustness of the data.

### **Concluding Remarks**

This thesis's pilot research findings suggest that multilingual children from high-SES families who attend international schools have verbal language abilities that are, as the clinicians refer to it, 'very superior' when their verbal language abilities are evaluated as one total language system (multilingual ability), which is in stark contrast to the 'average' results they receive when each language is evaluated on its own. Earlier in this thesis, I discussed an individual's perceptions of multilingualism (i.e. the 'fractional' or 'holistic' beliefs) informs how an individual evaluates and interprets a multilingual child's linguistic ability. The results from the pilot research language testing shows that when one judges a multilingual child's linguistic competencies through a child's individual language performances only, the child's total linguistic competencies are overlooked and undervalued. The multilingual children in the pilot group generally performed well in their language tests, and they all have similarly balanced verbal language proficiency in their languages. In addition, the children's test results did not show significant subtractive multilingualism, single language dominance, or 'fragmented language development', which is suggested in much of the literature on multilingual children. Also, the test results showed how much multilingual knowledge the children had across their languages, particularly lexical knowledge. Finally, the single language test results from across their languages showed that they coped well with any linguistic and cultural bias in the language test. The test used was American and was normed using children who resided in the USA. None of the children who participated had ever lived in the USA or had American parents. Not only did the pilot group of children achieve similar language test results, they also had common familial, educational and linguistic experiences.

The findings suggest that the pilot group of children was less at risk of misdiagnosis for language deficit if performance was evaluated in their single languages, and much more at risk of having their ‘very superior’ verbal language abilities related to their multilingualism be overlooked.

If the type of results found in this pilot study were to be reproduced at a larger scale, it could suggest that multilingual children with similar familial, educational and linguistic profiles to the children tested may need less exposure than thought to their languages to maintain an average proficiency in each of their languages. Three important factors may support the strong simultaneous acquisition of the languages. First, as seen in the interviews from the pilot research, families are using a range of different strategies to provide their children with exposure to their languages. Secondly, the families had positive attitudes towards childhood multilingualism and placed a high value on their language learning and their children’s language learning. The research findings suggest that rich and varied language input may compensate for the lower exposure that these multilingual children growing up in international school communities have. The research findings did not show the type of subtractive multilingualism or single language dominance discussed in much of the current literature; if such a result were replicated at a larger scale, a significant counter-argument to these theories could be launched.

What was clearly reported by parents is that these multilingual children have language preferences and that their use of different languages in different situations or with different people was both conscious and unconscious. The children’s language preferences seem to shift due to the influence of the language of schooling and friendship groups, but the shift was not so pronounced that it had led to subtractive multilingualism. If similar observations were made at a larger scale, it could be inferred that multilingual children from high-SES

families could be less at risk of subtractive multilingualism due to the effects of educational policies, community attitudes, or assimilation pressures, a negative effect that can be further reduced by their families maintaining positive attitudes and practices that support their children's multilingualism.

The findings from this research show how multilingual children's languages evolve as a result of their parents' career relocations, childcare options, and educational decisions. As discussed earlier, critical points in childhood (e.g. school changes, familial international relocations) affect a child's language and educational development. The transnational multilingual child who attends several international schools has a language system that is in a near-constant state of reorganisation as he or she adjusts to his or her new (temporary) cultural and linguistic habitats. Complexity theory provides a useful lexicon to describe high-SES multilingual international school children's linguistic trajectories because it acknowledges not only unpredictability and multiplicity, but also shrinkage and growth. The pilot research findings showed that this group had broad linguistic knowledge and that their single language knowledge is not as predictable or independent as their overall knowledge. The interview data combined with the language testing results show how multilingual children language-switch and language-mix, and that these behaviours are not the result of a lack of lexical knowledge in their individual languages. This thesis supports the notion that the monoglot's position that a multilingual individual has a static dominant language or is just another monolingual with a few additional languages in tow is grossly erroneous, a simplified take on something that is inherently complex. This thesis supports the efficacy of using theoretical frameworks such as the Dynamic Model of Multilingualism when evaluating the multilingual child's linguistic abilities because the multilingual child's total-language repertoire exists as a whole system.

This thesis highlights the need for comparative studies that look at both transnational multilingual children and more settled immigrant multilingual children. Out of the seven children who participated in the project, only one multilingual child could fit into one of Romaine's (1995) categories of bilingual children, mostly due to the way 'local' community is defined. For multilingual children from high-SES families, the international school community with its own lingua franca, often English, acts as a substitute for the local community and local language. Settled child migrants tend to reside in and are members of local communities, whereas the highly-mobile multilingual child from a high-SES family educated in international schools resides in an international community and *visits* the local community. As the multilingual child from a family of high-SES status moves around the world, his or her membership in an international school community remains constant while the local community backdrop changes, like a train zooming through ever-changing landscapes. While multilingual children from high-SES families are geographically transient, they are 'anchored' to the international community itself. Instead of the traditional 'migrant as settler' identity, the multilingual child is a 'transnational non-settler', and, as discussed earlier and supported by my own research findings, the transnational identity can be transmitted from one generation to the next, becoming an inherited 'status quo', and an identity in and of itself.

Transnational multilingual children in international schools can experience linguistic flux because of their transnational state. However, this linguistic flux should not be interpreted as something negative. Viewing multilingual children's linguistic development using a Dynamic Model of Multilingualism view which sees the multilingual language system as a dynamic whole entity and not separate isolated language parts enables linguistic flux and complexity to be accepted as normal. As explained in Dynamic Model of

Multilingualism discourse, non-ambilingual balanced bilingualism is the more typical state (Herdina & Jessner, 2002), so when balanced multilingual competencies are observed, these balanced states should be interpreted as positively *atypical*. Multilingual children's language competencies are at risk of being overlooked and undervalued if their whole language system is viewed through the performance in a single language. Educators and clinicians who continue to fail to understand typical multilingual language development are directly contributing to a situation where transnational high-SES multilingual children in international schools are at risk of being over- and under identified for language disorders. Evaluative practices and beliefs that originate from the monolingual mindset need to be identified so that the bilingual and multilingual states these children occupy and navigate are acknowledged as typical, additive and potentially superior to monolingual states. As the Dynamic Model of Multilingualism discourse reminds us, though: 'the measure of a multilingual in a monolingual society will always be in terms of how well it measures up to assumed monolingual competence' (Herdina & Jessner, 2002, p.128).

This research hopes to reignite academic discussion on International English and English as Lingua Franca in international schools, and to highlight the wide-range of language variation some high-SES transnational multilingual children are exposed to. International schools can be communities with large numbers of second language students and parents who are united in the use of lingua francas with native-speaker teachers who, in many cases, are consciously or unconsciously anchored to standard geographical variations of languages. Multilingual children in international schools are exposed to several variations of the instructional language in international school communities. However, they are exposed to fewer variations of their home languages in the same communities. The benchmark to which high-SES transnational multilingual children's language competencies are evaluated

needs more critical evaluation. What becomes critical when a multilingual child's less than perfect usage of his or her individual languages is used as a marker for atypical development. The Dynamic Model of Multilingualism questions native-speakerism as the benchmark for each language a multilingual can communicate in, and reminds us that bi- and multilingual individuals use their languages according to the rules of the bi- and multilingual communities in which they reside. High-SES transnational multilingual children in international schools constantly navigate monolingual, lingua franca and multilingual linguistic landscapes that shape their highly individual language systems. The Dynamic Model of Multilingualism acknowledges how multilingual proficiency and development are influenced by sociological and psychological influencers (Hofer, 2017, p. 10). It is clear that some variables traverse different childhood multilingualism contexts, such as familial attitudes and school language policies, but being in a state of transnational mobility and having the financial means to invest in multilingualism means this group merits its own research. Whatever the context a multilingual child grows up in, they remain a linguistically vulnerable group. Ultimately, it is the extent to which the adults who surround the multilingual child evaluate his or her linguistic development as typical or atypical. Knowledge of the transnational multilingual child's sociolinguistic context, the adoption of a multilingual mindset, and the provision of language development opportunities are essential if we are to understand better what is typical or atypical for this linguistically complex group.

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## APPENDICES

### Appendix 1: Examples of Assessments

#### ***Diagnostic Evaluation of Language Variation (English Only) for individuals aged 4 to 12***

The Diagnostic Evaluation of Language Variation (DELV) was created in the USA and consists of two tests: a screening test that establishes language variation status and diagnostic risk status, and a norm-referenced assessment that identifies speech and language disorders/delays. While the DELV is only available in English, it claims to be suitable for all varieties of English and that it is designed to limit bias when used with speakers of non-mainstream English.

#### ***Peabody Picture Vocabulary Test (Various Translated Versions) for individuals aged 2 years, 6 months to 90***

The Peabody Picture Vocabulary Test was originally created in the USA and has been adapted and translated into other languages, such as Spanish (Test de Vocabulario en Imagenes Peabody), French (Test de Vocabulaire en Images), Mandarin Chinese (修訂畢保德圖畫詞彙測驗), Italian (Test di Vocabulario Recettivo), Brazilian Portuguese (Teste de Vocabulário por Imagens Peabody), German (Peabody Picture Vocabulary Test Deutsch fassung), as well as other language versions not listed here. While cross comparisons of language competence can be made using these versions, the validity of using translated and adapted versions of tests has been criticised because translation of certain items does not always take into consideration the complexity of certain word forms in different languages, the frequency certain words occur in different languages and the age when these items are likely to be acquired (Haman, Łuniewska, Pomiechowska, 2015, p. 204).

#### ***MacArthur-Bates Communicative Development Inventories (MB CDIs) (103 Language Adaptations) for individuals aged 8-30 months***

The MacArthur-Bates Communicative Development Inventories (MB CDIs) are parent report instruments that focus on a child's early language development. The inventory asks parents to focus on their child's vocabulary comprehension, production, gestures and grammar. There are currently one hundred and three different language adaptations of the inventory (CDI, 2018). The test literature specifies that the test is not translated but adapted to each different language and culture. Unlike the other tests, the MB CDIs contain variations of the same languages: there are four Arabic variations, five English variations, two French variations, three German variations, two Greek variations, four Portuguese variations, six Spanish variations and two Mandarin Chinese variations (CDI, 2018). There are also four multilingual versions: a Lebanese-Arabic-French-English version, Maltese-English version, Irish-English version, and Welsh-English version. Unfortunately, the only language versions copyrighted are the Spanish and English versions, so to access and use the other language adaptations, one must request the adaptation from each author directly (CDI, 2018). One thing the

inventory does not do is to combine the tests to obtain vocabulary size (Haman, Łuniewska, Pomiechowska, 2015).

***Cost Action IS0804 Tests (34 language versions)***

In 2009-2013 the European Cooperation in Science and Technology (COST) Action IS0804 was created so that coordinated, multi-institutional research on bilingual children with DLD could be discussed and shared (Bi-SLI, 2018). A major outcome of IS0804 was the publication of a book on the assessment of multilingual children by Armon-Lotem et al. (2015). The tools were created for use with very young children (pre-school and early years schooling). Their main target group, although not exclusively, was sequential bilingual children (Armon-Lotem & Jong, 2015). The Action IS0804 tools created are only available by contacting the people who made them directly for each language.

## Appendix 2: Pilot Project Consent Form

### Information for Participants

What I want to tell you:

I would like to invite you to take part in a research project. I am researching the language development of multilingual children educated at the [REDACTED]. I am sending you this participant information because you are a parent of a multilingual child here at the school.

What I hope to accomplish with my study:

As well contributing to the discussion on typical and atypical language development of multilingual children in international education, this research will support professionals actively engaged in assessing and supporting multilingual children who are suspected of having language-related learning challenges.

What participating in the study means for you:

First, we will ask you to participate in an interview where I will ask you questions about your child's languages and family language practices. This interview will take between 30-60 minutes. Secondly, your child will be given the Bilingual-Verbal Ability Test (B-VAT) in his/her languages at school under the supervision of Lorna Greenall. Each B-VAT test takes approx. 30 minutes. Finally, the results of the B-VAT test will be shared with you in a follow-up meeting or by email.

What are the benefits of taking part:

You will benefit by receiving comprehensive information on your child's verbal ability in each of his/her languages. Your participation will contribute to the discussion on what are typical and atypical expectations of multilingual children in international education.

What are the drawbacks to taking part:

You will need to spend 30-60 minutes being interviewed and your child will miss some school time in order to complete the vocabulary tests.

What will happen with your data:

Everyone participating in the study will be given a code to ensure everyone remains anonymous. I will comply with all data protection laws and I will use your data only for the purposes of this study. Everyone's confidentiality will be maintained. Please note, as this research involves children, ethical factors have been considered and the Ethikkommission Nordwest-und Zentralschweiz has been consulted.

What rights you have if you participate in the study:

Your participation in this study is voluntary. If you do not wish to take part in it, you will not be at a disadvantage. If you decide to participate, you can withdraw from the study at any time. You do not need to justify your decision. If you withdraw from the study at a later date, all data will be stored until the completion of the project and then destroyed. If you participate, you will need to give permission for your son/daughter to complete the Bilingual-Verbal Ability Test (B-VAT) in his/her languages.

Who you can contact:

You can get answers to any questions at any time by contacting:

Lorna Greenall

Phone: 

.....

### **Written Declaration of Consent for Participation in Study**

- Please carefully read this form.
- If there is something you do not understand or would like to know, please ask.

Study title: A Study of the Language Development of Multilingual Children in International Education

Responsible institution: Prof. Dr. Elke Hentschel, Universität Bern

Place of execution:



Study supervisor: LORNA GREENALL

Parent Participant(s) Full Name(s):

Child Participant Full Name:

Child Participant Date of Birth:

Child's Languages:

Additional Child Participant Full Name:

Additional Child Participant Date of Birth:

Additional Child's Languages:

All of my questions about participating in the study have been answered to my satisfaction. I can keep this written participant information and will receive a copy of my written declaration of consent. I accept the contents of the written participant information for the study named above. I am participating in this study of my own free will. I can withdraw my consent to take part at any time without explaining my reasons for doing so, and without being put at a disadvantage. I have been given sufficient time to reach a decision. I know that my personal data will be given to third parties for research purposes in encrypted form only. I authorise the study sponsor's delegated experts, the authorities and the cantonal ethics committee to review my original data for auditing purposes, provided this is done in the strictest confidentiality. I am aware that I must fulfill certain duties while I am a participant in the study, as described in the participant information.

I agree to participate in the research. I agree for my child to participate in the research.

I hereby confirm that I have explained the significance and implications of the study to this participant. I affirm that I will fulfil all of the obligations connected with this study in accordance with applicable law. If at any time during the study I am made aware of any aspects that could influence the participant's willingness to take part in the study, I will inform him or her immediately.

Date/Place:

Signature:

### Appendix 3: Interview Dates and Times

<b>Child Code</b>	<b>Parent Interview 1 Date, Time</b>	<b>BVAT Testing Date</b>	<b>Parent Interview 2 Date, Time</b>
B6	9/05/2017, 15:45-16:45	10/05/2017-11/06/2017	12/06/2017, 15:00-16:00
B16	12/05/2017, 8:30-9:30	13/05/2017-21/06/2017	22/06/2017, 12:30-13:30
G7 & G19	12/05/2017, 13:30-14:30	13/05/2017-13/06/2017	14/06/2017, 14:30-15:30
B18	13/05/2017, 14:30-15:30	14/05/2017-11/06/2017	12/06/2017, 14:00-15:00
B12	17/05/2017, 15:30-16:30	18/5/2017-20/6/2017	21/06/2017, 14:15-15:15
B13	18/05/2017, 14:00-15:00	19/05/2017-18/06/2017	19/06/2017, 10:00-11:00

## Appendix 4: Interview 1 Questions and Topics to Cover

### Family Information

Mother:

- Country born, education, profession
- Languages used during education and work
- How would you rate your proficiency in your different languages?

Father:

- Country born, education, profession
- Languages used during education and work
- How would you rate your proficiency in your different languages?

*Are there any step-parents or step-brothers and sisters?*

Brothers and sisters:

- Country born, education, experiences
- Languages used
- How would you rate your other children's proficiency in the different languages?

Nanny/Au Pair:

- Country born, education, profession
- Languages used during education and work
- How would you rate the language proficiency of your au pair /nanny?

Grandparents and other regular relatives:

- Languages used
- How would you rate the language proficiency of your relatives and/or grandparents?

Friends of the family:

- Country born, education, experiences
- Languages used
- How would you rate your friends' proficiency in the different languages?

### Child Information

- DOB and place
- Countries and places lived in
- Educational background – daycare, nursery, early primary school
- Child's languages (at home / at school / in the local community / with friends or relatives)
- How does your child use his/her languages?
- When did your child first have contact with these languages? (any before the age of 3?)
- How is your child exposed to these languages?
- Child's strongest / dominant languages (changes in contexts?)
- Does your child mix languages or have any language preferences?

### Child's Language Uses

- Which language does your child read in and write in?
- Which language does your child watch TV/ films / You Tube in?
- Which language does your child hear stories / radio / music in?
- Which language does your child experience clubs or activities in?
- Which language does your child use when using electronic devices?
- Which languages does your child use with friends?

### Child's Language Abilities

- Compared to other children of the same age...
- How well do you think your child expresses himself/ herself in L1 / L2/L3?
- Do you think your child has difficulties making correct sentences in L1 / L2 / L3?
- Are you satisfied with your child's ability to express himself/herself in L1/L2/L3?
- Does your child ever feel frustrated when he/she can't communicate in L1/L2/L3?
- Do you think that your child speaks like a child the same age who only speaks ....?
- Have you or has anyone else ever been concerned about your child's language development in any of the languages? Family? Teachers? You?
- Did your child reach the normal milestones?
- Do you have any concerns about your child's language development?
- Do you have any concerns for the future?
  
- What are you expecting the language assessments will show?

## **Appendix 5: Interview Transcripts**

*Please note, any information that could identify a participant has been covered over.*

### **B12 Interview 1**

**Q. Where were you born?**

I was born in [REDACTED] in Brazil and I was raised there in the same town so that's where I come from.

**Q. What languages do your parents speak?**

My home languages were Portuguese Brazilian Portuguese. My parents are Brazilian, my whole family they just speak Portuguese as the main language.

**Q. And were your parents born in Brazil?**

They were born in Brazil.

**Q. So you were born in Brazil and did you do all of your education in Brazilian Portuguese?**

**How did that work?**

Yes, I did all my education in Brazilian Portuguese other than my Masters degree which I did in the United States and then it was done in English.

**Q. So if you did your education in Brazilian Portuguese and then you moved to the United States, so you moved for university?**

Yes, actually before that I went to London for about seven to eight months to learn English so that was my first experience going out and learning English. I had studied English in Brazil but I went there cause I wanted to have the experience of speaking the language in the country, so I stayed there for about seven months and then I went back to Brazil for a while and then moved to the United States.

**Q. And you said your Masters was in Portuguese Literature?**

Actually, my undergraduate study...I actually did two undergraduate studies. One was in Brazilian Portuguese Language and Literature and it had a component of Latin over two years. Latin was mandatory, I knew I could continue on and also have a dual degree...you could just drop and continue with Portuguese and I selected that because at the time I decided to study something else which was called in Portuguese, called Technologia, it was technology, it was about automation of offices and plants and that school also offered a double degree and I took it, so I studied German and French so it gave me like, what they call an associate degree and that, but my other other undergraduate degree

was in technology.

**Q. So you had additional languages as part of your undergrad degree?**

Yes

**Q. And then the masters you did in English?**

Yes, because I was in the US for a while and my career was in HR and it was progressing really well and I thought there was a lot of opportunities with training and learning and people development and that was the area which I liked the most so I applied for a Masters of Education and I studied adult learning but then I decided, okay, that this was interesting, so I stayed on to get a second degree which was in Global Leadership Development, so the masters is in adult learning, so we studied the brain how the brain processes information and how people learn all of those things but then I got that degree but I proceeded on to get one more which would be more relevant to the business side.

**Q. And then after university did you go continue doing HR? What's your work experience?**

Actually, I was going to two universities at one time so one was a daily university and one was a night, at the same time. One was from 7 a.m. to 4 p.m. and the other one was at night, so the one that was a daily university was preparing people, myself, for the work, to go to work and one module required you to do an internship with a capstone project so I applied for a job and for an internship and I was picked by the HR department so that's where I started. I was like super young and I had not even finished my undergraduate studies and in that job I started using languages because I did a lot of translations and writing of letters and presentations, and mostly in English and Spanish and Portuguese, and I never left the company. I stayed for sixteen years then I finished my university. I finished the second university then I went to London and came back and then I even moved to the US. I left the company when I moved and then later I went back, working always in the HR...then it was different because I was more working in the headquarters in America so then I was working in English and living surrounded by English at all times.

**Q. And after that you moved to Singapore?**

No, after that I went back to Brazil for two years and from Brazil I moved to Malaysia for about three years and then from Malaysia we moved to Singapore and then Singapore we came here.

**Q. So you have Spanish, German, English, Brazilian Portuguese?**

And one little bit left of French but I can't say I speak any more.

**Q. So if you look at the four languages, how proficient are you in each of your languages?**

I think, of course, Portuguese is fine, English and Spanish definitely - I am able to work in those languages and write and speak and everything. German, it's I think my weakest. I never had the opportunity to live in a German-speaking country until now and so my writing and reading is really

good but my ability to speak is not yet so good.

**Q. And do you work now?**

No, I stopped

**Q. And your husband does he have a similar experience to you? Where was he born then?**

My husband was born in [REDACTED] in Austria. Both of his parents are from the same town, from [REDACTED]. They were in school together and they got married so they always spoke German...so Austrian German, the dialect, so they... know...what I know is that they don't learn German until they go to school. It's similar to here because at home they speak the dialect and when they are playing it's always dialect. When they go to school they start school in kindergarten, it's when they start to be exposed to German. Of course the television...my husband said of course the books that he was reading because he was already reading before he got to school. He learned with his grandma, they are in German, right, but of course it is like something you do, you read a book and he was, I think, sixteen and then one of his bosses was English-speaking so he got exposure early on...he started speaking English.

**Q. And did he study?**

He go to university in Austria and his education is in German.

**Q. Then has he got a degree like you?**

No he doesn't, well he graduated in Mechanical Engineering program. His area now is called Supply Chain but of course in the past it used to be called production then manufacturing, now it's called supply chain, so he uses a lot English because supply chain is very dynamic and many people from different parts coming from everywhere. So, he went to Brazil when he was I think twenty seven to work with the company that he was working with in Austria and he learned Portuguese in six months because he was assigned to work in the plant in the factory floor so he was, of course...the meetings with the managers was in English but when he was down in the factory floor he needed to speak Portuguese so he took intensive lessons before going to Brazil, and then in Brazil he's fluent in Portuguese. He can read, write and speak fluently.

**Q. So you guys met in Brazil? So you met in Brazil and then you got together and he moved. Did you move to Malaysia because of his job?**

Yes, but we were already together when we went to London and then I came back and we got married and then he got to go to the US and then we went together. Most of the movements we made was because of his job other than Singapore because he was in Malaysia and then I got a job in Singapore, so I got transferred and then he asked for a transfer and after a while it all worked out and he came to Singapore as well.

**Q. Your husband speaks Brazilian Portuguese and Austrian dialect and high German and English . What is his level of proficiency in those?**

Right now in Switzerland I think it's a mix. In Singapore definitely it was in English all in Malaysia but here now I see that he is on the phone back and forth sometimes in English, sometimes in German, depends who he is speaking to but I know that with his assistant he will write in German and speak in German because she is Swiss so is just easier, right. With [REDACTED] he speaks lots of different languages.

**Q. So can you explain to me how all these languages work at home? How do you use all your languages?**

Well, from the beginning what we have been trying to do is I speak Portuguese to [REDACTED], [REDACTED] speaks German. He tries to speak High German but his language is Austrian dialect so every now and again he will speak in a heavy Austrian dialect, of course, and we always had live-in help in Singapore and she spoke English and Tagalog, so because of her, [REDACTED] was exposed to English from early on because we are both working and she take care of [REDACTED] while we were at work.

**Q. So before the age of three, [REDACTED] was exposed to German Portuguese and English?**

The nanny did not use Tagalog with [REDACTED], just English.

**Q. Was the nanny fluent in English?**

Yes

**Q. And now is it still the same? Do you still have a nanny or..?**

No we don't have a nanny, that lady any more, unfortunately, but [REDACTED] has spent most of his day with her. He really got to speak a lot of English and in the playground and in Singapore everywhere we lived is full of expatriates and the common language is English among the nannies and among the kids, so he's really heavily exposed to English from very young.

**Q. And when did you start him at school or did he go to nursery?**

He went to what in Singapore they call nursery. I think he was three and a half and then of course there he... this is when he started with Chinese, Chinese and English. It was two teachers in the class: one spoke English and one spoke Chinese and they had one hour of Chinese every day divided into two blocks of thirty minutes. One time somebody read to them and the other time they had an activity in Chinese so that's when the exposure to Chinese started.

**Q. And did he continue with the exposure to Chinese?**

Yes

**Q. Did he start school after that?**

H had Pre-K and Kindergarten and then he came here.

**Q. And in the pre-K and kindergarten did he also have Chinese? Was that the second language there?**

The school, yes, in the school it was.

**Q. So he had Chinese as a second language, so then you moved here and he is in [REDACTED] now and he's got German but no longer the Chinese.**

And he gets Portuguese only once a week in Singapore. I had a Brazilian lady who is a teacher and she came two and sometimes three times a week. What we did was at the beginning she came two times because he was really small and he studied at the age of two and because I was at work he was exposed to Portuguese.

**Q. So now in your home you speak Portuguese, your husband speaks German, and [REDACTED], what does he choose to speak to you?**

English, he switch back in English. It depends, with my husband, I see he is speaking more and more German now because I think he is being exposed to much more German than he ever been before so the words are floating in his head, so Portuguese, he has lesser than he ever had before. He doesn't have the tutor coming two to three times a week and he spends a much longer day in school because he doesn't get home until four so I feel that he has left wanting to speak Portuguese.

**Q. Before, was he speaking more Portuguese with you?**

Yes, and more English now. There is so much more English because school...he is all day, so he starts from the time he goes into the bus until he comes off the bus they are speaking English.

**Q. With your parents he speaks Portuguese? So he doesn't have the chance to use English and with your husband's parents he speaks German? so he has to speak and does he do that? Does he make the switch?**

He does.

**Q. So when you have friends, do you have friends of the family who you see quite a lot?**

Not some, not now. Right now it's quite a mix of friends. We have visitors from Brazil, we have visitors from Austria but we also have had visitors from America, so he is switching...if he is playing with kids, say my nieces who come from Austria and speak German, he will speak German and he go to the whole thing. I see now that he is explaining something if you know he doesn't know the word and another kid will say, "you mean that in Portuguese", it's the same if he is among kids who speak Portuguese, it is also happening, but the other difference I see is in Singapore the majority of kids ... the Brazilians speaking Portuguese only and they were learning English. Here the Brazilians who are around are mostly been brought up in English or English Portuguese mixed so they all default to

speaking English.

**Q. How does it work with play dates? What languages does he choose?**

If the kids are from the school and it's a mixed bag of all sorts of nationalities and languages they all default to English. If it is with the Brazilian kids from the school here they will speak some Portuguese but mostly English, but if he's with kids and the primary language is German, he will switch to German.

**Q. When you have the Portuguese English-speaking kids, when do they choose to use English and when do they choose to speak English or is it a mix?**

In Singapore it was driven by the majority and the majority of the kids came to Singapore and English was definitely their second language ...who were mostly comfortable in Portuguese so they were just Portuguese and [REDACTED] just followed and he was comfortable doing that. Here I see different because the kids in his class who have Portuguese do not speak both Portuguese, so he speaks more Portuguese but even then they will switch. But [REDACTED] at home also switches when he want something. Everytime there is something in my mind and he says this word in Portuguese, I get 'mama' and never he really, and when he wants something he said 'no mine', when there are any more time on the ipad or one more piece of cake or anything that is cheeky - he will speak to me in Portuguese. He totally knows I need to be with mummy so now I will speak Portuguese. He doesn't do as much with his dad...that's politically correct...daddy is not in the decision-making process. He asks dad but he still asks mum. I look...he sometimes says he is the second boss, mum is the first boss. He absolutely uses his languages to manipulate the situation. He uses Portuguese when he want something from mummy.

**Q. So what does he choose to read in?**

English. He can read Portuguese and he can read in German. He watches TV in German, it's a mix of course he would rather have in English his TV, but I made some rules to see how things go. I say, okay, you're not supposed to watch, okay all the time, if you want to do more TV you need to watch something in Portuguese or in German and then he switches and he watches it in Portuguese and I know he understands because he is laughing when there is a joke or something so I tried to ...so I don't make it like you can only do Portuguese ...all only German because his preference is English, so maybe if Monday he watches his half an hour of TV and English on Tuesday his half an hour is in what language he want to choose and then he will say "I wanna watch this in Portuguese" and then we will find it.

**Q. What about music?**

A total mix.

**Q. And what about clubs and activities? So he does after-school Portuguese but does he do any**

**other after-school activities?**

Actually no because [REDACTED] has had a tough time with [REDACTED] here so the doc asked us to take him out so he does chess but that is done in English. That physical activity, not for the time being, he always did soccer, right now he is just doing Portuguese and chess and chess is in English.

**Q. Does he go to any things in the community in German? Does he have any German community children?**

No he doesn't, but we do go and play. We have a little forest and there are a whole bunch of Swiss kids there and he plays there.

**Q. Does he have access to an iPad and what languages is that in?**

It's in English. One thing that he did is that at Christmas he got a Nintendo and the cards are region specific. He has a choice of English but he is playing in German by his own decision because he said the reason is because all the cards he buy at the store are in German. [REDACTED] has the cards, the card and the Nintendo are different thing, that because the cards are in German he says it's easier for me to play in German. Because the physical cards are being bought locally he is changing the language of the Nintendo.

**Q. Does he mix any of his languages?**

Not really

**Q. How would you rate his languages in terms of what do you think is his strongest?**

Definitely English is his strongest and then I can't say. If it was one year ago, before we moved here, I would say Portuguese then German but now German is competing so strongly with English because of the exposure, it's all around us, even my German has improved by just being here so I think it's really almost equal. So I think English will be strongest and then German will be second and then Portuguese.

**Q. When you compare [REDACTED] to other children do you think he expresses himself fine in English, Portuguese, and in German when you compare him to other children?**

I think he definitely expresses himself more in English. He uses more words and he is sharper in his sentences and he is less talkative unless he is speaking with a group of children in that language in Brazil and sitting there with my mum and he is playing with my nieces and nephews and I can see he is laughing and talking but in conversation, and you ask him why he would elaborate much more if you were speaking in English, but I don't know [REDACTED], I think he has...I don't know if this is real but my husband and I keep talking, we think he has some easiness with the language and we don't know if it's because he's been exposed to so many from the beginning or it's something that comes from [REDACTED], but he speaks really well, really clearly ever since he was two and half years old people would say I'm sure your son is not two and a half, he uses mega words and he is able to spell

everything. I ask him to help me with pronunciation and spelling in English so I find that he is really really fluent in his languages, really able to speak and elaborate sentences.

**Q. Does he ever feel frustrated when he uses his languages?**

Sometimes he does feel frustrated because he says I don't understand exactly. I think that's what they are asking me to do and then depending on the situation he might ...he might say "ah, I don't understand".

**Q. Has anyone ever been concerned about [REDACTED] languages?**

This teacher here, she keeps telling me that I need to keep getting him to speak more Portuguese, to go home and not necessarily ...we do the activities as she has done that topic and try to talk about the topic because she finds that he should be speaking more, but he is not really speaking more in the class. At one point in time maybe he was three he was stumped, sometimes stuttering when he was trying to say something and we asked his doctor said it's not a problem it will go away. If it doesn't go away don't worry about it, but I'm sure it did, so when he was switching from language to language you could see that he wants to say but it didn't come out, but then about six to eight months later it was gone.

**Q. Do you have any concerns for the future?**

Well, my concern is that I want him to do what he wants and to feel pleasure, and he understands the importance of it for himself and for me and for his dad I explain that to him that I want it to be his choice because for me, I wish he would speak more of the languages so he can communicate with the family. First and foremost in the globalised world if you look for jobs or development studies that was served, we think that will serve him well but this is too far ahead for him to think so for the time being, I just want to always use ...and I tell him that if you like to speak with Grandma, so if they are playing both on the iPad and he needs to show him the board and he needs to show him to say to him "you need to take this one" so he is learning chess parts and the movements in all the languages at once because he is playing with his dad in German, with the group in English, but my mum has no clue what she's doing because before they used to do is to play different game so I try to resonate him that on an emotional side, but I don't know if that really works. At one point in time it becomes a personal choice and now you make for me, I think it's quite easy because I was born that, I am Brazilian, 100% no matter how much I move, my heart is green and yellow. I am and so is [REDACTED] and he smells and the taste and music the words they all have meaning beyond the dictionary to us. I'm not sure how that works when somebody is not growing up in the country. This is the biggest thing we have and this is what I've been reading about and watching about, this is the biggest concern for the TCK. If he drops Portuguese, he drops Portuguese if that's what he does, I can't make it something that he doesn't want to do, to force it upon him. This is the only thing I wish you would do, how do I influence my child in a healthy way? I don't want to manipulate relationships and understanding because I think language is intrinsic to culture and a sense of belonging. This is all new

to me ...my concerns goes beyond the languages [REDACTED] belonging. And I have to respect. I think language is like, if you divide the languages, they have such a heavy chunk on the formation of your personality, of who you are and where you belong to because a lot of kids have this whole thing “*where am I? Where do I belong?*” and then the teenagers, there are sick suicide rates and drugs, this identity and belonging, I honestly believe that language makes you belong. That’s what the TCK is ...if you watch the series on YouTube, that’s what they’re saying -they go to America if they have one of the parents who is American and they change the way they speak English they speak with perfect American accent although they look Korean because the other parent’s Korean and then when they go to career they do the same and they know the expectations of a Korean family from a behaviour perspective because the parents have told them. And then there are a lot of kids have one place where they are grounded, a lot of kids talk about one class, one place where they go like a vacation home or a place where they think that one commonality that they have, so it’s very interesting for me. Language is a concern and learning and being able to speak correctly and grammatically, I think all of that can be fixed and it fixes that.

## **B12 Interview 2**

[English] - Oh my Lord, we always thought he is very articulate but.

I see the decline in Portuguese and the increase in the other languages since he is here. Portuguese is much less now. I wonder what he would be like last August, when he didn’t want to speak or read German at all. No, he has never had any education in German only talking with his father. Of course, he has books, but he was not able to read them last year. He could read in English but not able to read the books in German. Now he is starting to read the books in German.

His English is better than mine. Absolutely, he corrects my pronunciation, he never gets the grammar wrong - the past, the future, all of it. He is immersed for the last year in German. Portuguese, it’s just me. Socially he is behind but academically he is going very fast. My husband was like that, he never had to study and got the best grades his whole life. He was told by teachers “why don’t you have a masters degree with us?” it’s just, they have brainy people. [REDACTED] has had the advantage where he lives - in Singapore, English is the language everyone is using, and his teachers have always been native English speakers although from different nationalities. He had a Canadian, an American, an Australian, so he also had the accent and the different languages. I was worried what my bad English was going to do to his English and my accent, but then he had his first teacher was Australian, the next South African but she was educated in England, a Canadian and now an American. It is good but it showed me something I already know about Portuguese, that I need to get him a tutor.

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## **G7 and G19 Interview 1**

I am born in [REDACTED] which is in Algeria and I grew up in France. I arrived in France when I was three years old so I started right away because in France you go to the early years there but it starts at three years old and usually people don't keep the kids at three. I started three years old at school. I arrived in France. I started right away to go to school. My parents grew up in Algeria but it was, they grew up in Algeria and everything was in French. The language at university, at work, was French, so we grew up, even when we arrived in France, French was my mother tongue already. In fact I didn't notice I had to change country, it was special. My father needed microsurgery. It was really something special at that time and it was possible in France and when he arrived in France they said it was too serious, it will take not months but years because they had to do many surgeries and they couldn't do it in a short period of time so my father decided to move with his family. He had no choice really, it was not his choice to go to France but he was happy with that because once again he was working with foreign people and it was positive for the family on another side because for him it was a good option to make us grow in a nice country. My home language was French but we also speak Kabyle. Both my parents were part of minority in Algeria. It is a strong minority, about half of Algeria are Berber so we speak Kabyle and I had to learn it because my mother and grandmother used to come once in a while. It was the way to keep in touch with the family and friends and grandmother there in Algeria, but with my parents we really were speaking French always. My mum sometimes used to mix a little but not that much and they really loved the French language to communicate, to learn, and for them it was not an option, it was natural, but especially for my grandmother, we had to speak Kabyle. I liked it so it was because, for example, of family and friends living there, everybody could speak perfect French because at school at work. It was French at that time, it was not really for friends or family because when we met, we speak French. It was very important for my grandmother so I kept it because I liked it. It is the language that people don't really write and when they write it they use the Latin language otherwise you have signs that Berber people still use today so an example is S is round with the point in the middle. And in France I had the option to have two, so I choose also that language for baccalaureate. It was my fourth language at the baccalaureate. I was learning baccalaureate at that time. It was Economics and you can have as many languages as you want so I had English, German and Spanish and I also picked Kabyle just for fun. I mean it gave me points so it was an option. Over there language is still healthy but when people move abroad they just stop speaking it - I don't really know why but it's so special. I like it. It was really easy for me to pronounce German. English, my accent is not super good but it's not as bad as French accent because in Kabyle you have all those sounds, really all of them and in Italian you have them also so I liked it for that: it was a big mix of sounds.

### **Q. Tell me about your education**

I did Law straightaway but at that time, to study law you had to get the baccalaureate for you to do the economics. You did a degree in law and then a postgraduate in international law and then a PhD in International and European law. I focused on the banking and then I decided to have a postgraduate in the art market because I was thinking about studying. It is one thing but working is another so I was ready to look for a job and I was not sure I was that much interested in law, in only law and then my first job was not a lawyer job, it was for a big company working, organising art shows like all the big shows that you have in London and Paris, whatever. It was the [REDACTED] company in France organising that so that was my first job. Now in Switzerland I don't work. My last job was for a web company. I was web editor. It's a French company editing websites in the interior design, architecture, furniture, for professional people to find the companies they need to work faster. I would like to work again. For me was not an option to stay at home and actually the first year here was really tough for me because my two daughters, when they both turned three months, I started right away to work so for me it is part of normal life: you have work, friends, so I have to look for a job now but it's quite difficult as the options are in [REDACTED] and I have to think about it because I want to be home when they get home so it means a part-time job so it is not easy. I'm not ready to do any kind of long job: they are nine and seven so now it's okay, I can start to look for something.

**Q. How would you rate your proficiency?**

So French is my mother tongue and German and there's quite a lot here Spanish. Spanish I love the most, and Kabyle of course, and Italian. I don't use it as much as ten years ago because since we have my daughters I never speak it at home and with my husband it was really French the language we communicate, but I tried to speak it less as possible so they understand that I like it but I have to speak French when they are around. So English, you can tell me, Italian and French. French of course quite good, I would say Italian after, and then Spanish, and then German. I speak more often German since we live here but I really love Spanish and I think I speak better Spanish than German.

**Q. And your husband?**

My husband is Italian and he was born in Italy, in [REDACTED], and the whole family is still there. His friends and they are real Italian. They travelled but not that much. I think none of them lives abroad. They are real [REDACTED] Italians. So he was born in [REDACTED], he grew up in [REDACTED] and he left [REDACTED] for postgraduate study in Barcelona. He studied in Milan at the [REDACTED], it's a private university in Italy for Economics and then he didn't think about moving for the postgraduate but when he arrived there everybody was planning after three or four years to go to do a postgraduate somewhere so he started to think, because his family is not really open to find countries, find people, or whatever, so you didn't have that experience inside his family and friends, but then he thought that maybe that could be a good idea and he could already speak French and he had to learn Spanish and then he decided to go to spend a year doing something in Barcelona and from there he got that opportunity to start working in Paris and since then he's spent fifteen or seventeen years in France, so we met in Spain but he was in France. We were both in Paris at the time that we met in Spain. He is

[redacted] for an [redacted] company that specialises in packaging and here he works for the headquarters for Europe and the Middle East. He uses English for work because most of them are British people and it's the common language anyway for such big companies and it's an [redacted] company so they do everything in English they don't have to translate anything as actually all of them come from [redacted] because the headquarters was in [redacted] and then they moved it here. I don't explain why but so even in [redacted] they used to speak French, all of them. French I would say he speaks perfectly because he writes also very good and he doesn't do some errors that even French people do in their emails when they write to me. I think he is very fluent and then English he has been working for years with British and American presentations and so English is also fluent and then Spanish, he speaks quite good Spanish, very good Spanish, not as good as French but he goes once in a while to Spain for work and they're very happy to be able to speak Spanish and not English and worked together, he can work in Spanish so he speaks very good Spanish and Italian as his mother tongue of course. Yes, he is very multilingual except the young who to travel and know languages but the others, no, they, I don't think they can speak anything, just Italian and a little bit of English, no he didn't grow up in a family where languages, was nothing he never really had except his parents and his uncles, they speak Bresciano which is close to the Milanese dialect. The funny thing is that I understand them when they speak because for me it's a mix of Italian and French so that's funny to hear, but it's dialect dialect, it's not a language because in Barcelona he could understand Catalan. I speak Spanish Castiliano but the difference between dialects and languages like Basque, I don't understand it, I really feel it's language, Catalan and Bresciano - they are dialects. It is a bit like Romansch here: sometimes I understand it and I had one year of Latin. My husband, for example, he doesn't like it if they speak Bresciano or Milanese to him, he answers in Italian and he doesn't really know why because he loves languages and so, but he's a bit different in his family because he wanted to learn French and then Spanish and then English, so he's special. For me it is more natural even when we deal with our daughters, it's more natural because I grew up like that, hearing different languages, it's different but at the end we behave the same, like we think it's important and we want to maintain that and we want the girls to speak better the languages that they are exposed to but we have a different background, at the end we think exactly the same because everyday it's not easy.

**Q. What about your friends?**

Here in Switzerland most of the friends we have we have them from school or my husband work. At the beginning it was the most natural way so, well it depends, it really depends, so with some friends it's going to be in English because it's the common language. Some of them it's because it's their mother tongue so it's just a common language, for example if I have a friend who is Russian we can't speak Russian but we have English in common. With others whose mother tongue is not French, but we have in common because they speak good French, maybe used to live in France, the French and English. Italian in the school, I know Italian people that the kids are older so when we get together they speak Italian and my daughters understand but they don't have young kids to play with my kids in Italian.

### Where were they born?

Both of them are born in Paris. [REDACTED] in 2008 and [REDACTED] in 2010, only two years between and so we lived in Paris and left when [REDACTED] was three and a half years old exactly and [REDACTED] are eighteen months. [REDACTED] and [REDACTED] were both at home with a nanny but the last year when [REDACTED] turned two and a half exactly she used to go to the Italian school in Paris. It was only half day because they stop school at one so at one the nanny had to go and get her with [REDACTED] and in the afternoon she was at home with [REDACTED] and the nanny. It was a bilingual school so it was Italian and French: some days it was in Italian and some days in French. The nanny spoke French as she was Polish but she could speak perfect French, she was fluent. We came straight here from France. [REDACTED] was one and a half years old and [REDACTED] was three and a half years old. [REDACTED] started to go some days to the Montessori daycare when she turned two because I didn't want her to spend the whole day with me and only me and that time we had just arrived and didn't have friends and didn't know families with young children that they could play with so for me it was important to have her to play with young children. So [REDACTED] was at the Montessori School also the first year we arrived here to only one year because she hated it. The Montessori is German and English but it was much more Swiss German and not even German. They were supposed to speak German half of the time and English but it was more 80 Swiss German and 20 English, but she didn't like it so we said okay, we finished the year and we look for another solution because she really didn't like it. It was after an interesting conversation I had with, I don't remember her name, [REDACTED], she specialises in multilingualism and we were planning on coming here and I told her look we are Franco-Italian family and we're going to live in Switzerland but in the German-speaking part so I said "what should I do?" because the company is proposing an international school for the kids which is all in English, but I would like them to also learn German because we plan to stay, not expats, and she said right away that there is no problem for kids to learn more than three languages it's just how you do it so I say, "Do you think we can try the Montessori school?" then she said for me there is no problem but it depends on the pedagogy and everything and how they do it but it's not a problem so that's why we decided to try firstly Montessori bilingual school because everyone was going to [REDACTED] and the family that is coming here at the same time they decided to choose [REDACTED] and I decided, no, let's try this one and see how it works but [REDACTED] she didn't like it and I don't think it's because of the language. It could have been part of the problem because the way she communicates: she speaks a lot and since ever she is like that so maybe it was a bit frustrating for her not about understanding but more about speaking. She couldn't express herself because she knew they wouldn't understand her but I don't think it was the biggest problem, the biggest problem was the way they were, she kept on saying to me they treat me like a baby because she is very mature so she didn't like it in very small groups and with Montessori methods, but I think they didn't understand my daughter. Because it was only, I think the woman she said to me they had just opened a year before so they were not ready to teach and the teachers were leaving and that's not good for young children so they didn't like it so [REDACTED] joined the Montessori school when she turned to only just to play and it was okay and she liked it

so was okay but they are very different and [REDACTED] doesn't think much. You give her some toys and music and she's okay, she's happy. [REDACTED] is two years younger so when [REDACTED] turned four and a half after one year at the Montessori school my husband and I were looking for another option and everyone was talking very positive about this school so we said okay let's try it and she loved it straight away so I think she was also very lucky because she had [REDACTED] as her teacher and she's very experienced and all the teachers are good to her but some of them and some of them I don't know if it is the experience but they have a particular profile and [REDACTED] she was right away very comfortable with her and it was nice I didn't have to worry, to think much about style at school because I knew she was in good hands and she was happy right away. So one year after she turned three [REDACTED] joined the school with [REDACTED] and she liked it also. When they arrived [REDACTED] could say two or three words in English and maybe we did good to move her at the end of the year because she could probably have a bad approach to English and also because of that experience she didn't like there at the Montessori but everything went okay.

Before the age of three they had French and Italian and that's it so English came after eighteen months for [REDACTED] and three and a half to [REDACTED]. They used their languages in a very different way. [REDACTED], when my husband and I would talk, we think that this is three and a half years [REDACTED] had in Paris they were very beneficial for her to have a good fundamentals in French and Italian. My husband and I never mix. He speaks any French and my husband is in Italian since ever since the first day of their lives, but we realised that the difference between the girls comes probably from that [REDACTED] [REDACTED] was only exposed to French and Italian and French she speaks perfectly but she caught inner city where people speak French and with family we used have family and friends around and always in French. The nanny was French so she had to that time to concentrate and focus on French and also Italian with my husband, and [REDACTED], no she arrived here at eighteen months she started to speak at that moment and it took her anyway a long time to speak. [REDACTED] was very early to speak but [REDACTED] took a time anyway, and [REDACTED], she is different because when we arrived here she took a time to learn English, more than [REDACTED] but she started here in the school at three and [REDACTED] was four and a half so with that difference in time when [REDACTED] started kindergarten she could speak as good English as [REDACTED] could in kindergarten because she had that time, I mean that's how we understand it. My husband and I so [REDACTED] started English before I needed more time so in the end but [REDACTED], she never mixes, never, she will do it for one word she doesn't know in language but she really tries to, well, she doesn't think about it but she speaks Italian like an Italian for me, especially if she is in an environment with family and friends. My mother-in-law in Italy so she is Italian, it's funny the accents when she speaks at home with her dad, she speaks good but it's different in Italy with the Italian people, her attitude is different she speaks louder and the accent is better when she speaks with my mother-in-law or cousins, especially with Italians that don't speak another language because then she really is in an Italian world, so with [REDACTED] she never mixes and you can tell she likes to speak different languages. I think she really likes it and I never had to tell her "don't mix" because she doesn't. I think it's automatic and she doesn't think about it. With me she speaks only French with her

husband with my husband, only Italian, family and friends in French, French only with my sister, she lives in the US and they have two young boys they are ten and six years old, so when we meet their French is so bad that my daughters speak English, but it's only because otherwise they cannot communicate so they speak English together.

██████ is a bit different. ██████, she speaks only French to me but she mixes a little bit with my husband. She replies in French but he speaks only Italian and with her sister this year she started to mix quite a lot French and English, and ██████ she forgets herself if you talk English to her, she is going to reply in English, if something is in Italian she replies in Italian. She doesn't even think, so I hear ██████ say something in English and ██████ replies in English. For her that is normal, that is natural, that she will never speak English to her sister, ██████ will never speak English to her sister but ██████ will to ██████. ██████ mixes a lot. With two languages at the same time, like to make a sentence with some words in English and some words in French. ██████ doesn't have to think if she hears one language she switches right away so it's according to the situation or the person and it's automatic. For ██████ it's different, you can tell that she has to make some effort to adapt herself to the person, to the language situation. It's not as natural as ██████. It's super funny. Half of the sentence in one language and then you don't know why she finishes in French or Italian, but I have to say something that we realise about the Italian when we go to Italy, that part of the family that doesn't speak anything other than Italian she speaks Italian quite good actually so that's why I don't worry. I'm like, okay, she really needs to be in a situation where she has to, that's why I think she makes effort to speak two different languages when she has to but in Italy, for my mother-in-law she has to speak Italian otherwise they don't communicate and then we realise she's not bad at all. But she has that. I don't think the mixing is a playful thing: the French and English here at home she mixes so she uses both languages in the same sentence but I really think it's because she's kind of lazy because most of the time she knows how to make the full sentence in French or English, but it's just like if her brain was like, okay that word is easier for me in English, if I know it even if I know in French because I know in English another way to turn the sentence to make it clear comes easier in English, for example, she keep saying in French 'regard a moi' and she knows that we don't say that but I start thinking that she thinks in English because we say 'look at me' in English and she says and I reply to her in French. No, I think she loves English. She spends so much time in the school speaking English and she likes it and maybe thinks in English. Also, I try to understand because unlike you know that word, so what's wrong with you and you know my mother tongue is French so even if I understand the English word there is no reason to mix the languages like you do and at the same time I shouldn't speak like that because if it's natural the most important thing is for her to communicate as long as she can communicate, but with my mother she speaks all in French. Yes, it depends on who she has in front of her. If you speak, if you say, you speak English then she will mix and she doesn't do it on purpose it's her brain working like that. It's like I can just relax and speak like I want because they will understand me anyway but my mother are grandparents, she knows that one speaks French and the other speak Italian and she doesn't mix. My husband speaks perfect French and she knows it so

when she speaks French he understands so that's why she doesn't make the effort to focus on Italian when she speaks to my husband, so if I could only speak French I think she you wouldn't mix them with me but that's part of her personality; she is very active and lazy for somethings, also she is like that.

Sometimes if we are with English-speaking friends when we talk together, when they have to talk to those people, they speak English, but when they turned to me for something special she's going to turn to me and say something to me in French when they turned to me or to my husband they tried to use speak that language. It's natural for them. If it is not something she can share with other people, she will, otherwise we share the common language which we do.

**Q. Has anyone ever said that they expressed any concerns about the children's languages?**

They always, when we talk about languages, you always say something super positive, all of them are impressed because when they know people speak two languages or three maximum, that they try to learn German, so surprised because they think with their adult minds they think it's impossible, but they say only positive things.

**Q. What languages do you think are the strongest?**

For [REDACTED] it's French. I started with the mother tongue but on Wednesdays last year, but she needs to learn much more. She is not able to write in French which is a difficult language and I have to find a teacher otherwise if I wait too much, it's going to be even more difficult so, but she speaks perfect French. According to me she speaks like a kid who is going to school in France. French vocabulary, grammar. French is her strongest language and after that is English and then in Italian and we forget German.

For [REDACTED] I would say French, anyway the vocabulary, that English right on the top, so with years it's going to be English and then French. It seems that I don't know if she thinks it's easier or she likes the sound of the language, I don't know but that's life. Italian, but as my husband says we will think about it later. It's much easier than French to learn to write and read, actually they can read something in Italian but in French It's still very difficult.

**Q. And reading and writing?**

It's English. It's English for both of them.

**Q. Watching TV and films?**

We don't let them watch very often because my husband and I never turn on the TV so they are not used to having the TV on at home. We have one but it is just an object, but we let them once in a while, once or twice in a week if they ask. If they don't ask, I forget, but if they ask I say yes and my husband says yes, but most of the time it's in French. Italian, it's just because the things they like it's

not in English, it's in Italian or French. The cartoons they like are in Italian or French so that's the reason why I let them once in a while watch those cartoons because it's another way to have contact with the language.

**Q. Radio and music?**

Our music category, if it is because of this school that they get back home and say, "mum can you look for this music" and most of the time it's in English. They are nine and seven and seven like pop music and it's all in English. It sounds good only in English anyway.

**Q. Clubs?**

So once again we decided we are not expats so we try to find different ways to get the girls more integrated, so we decided this year that no activities at school so they learn an instrument at the music school and they have an [REDACTED] Club in local and so, [REDACTED] she learns guitar in German and [REDACTED] learns piano in English because she started speaking English to that teacher because I guess she couldn't understand. I think the teacher was frustrated because she couldn't teach everything so she switched to English. I said okay but maybe next year I should have another teacher and hope it's going to be in German. [REDACTED] is in Swiss German but he is Italian and he has been teaching here since forever so he speaks in German for everyone but when they really don't get something then he switches to Italian.

**Q. Computers and electronic devices?**

They don't have a phone but they have an iPad. [REDACTED] got hers and it's in English and [REDACTED] got my iPad so it's in French and we also didn't want them to get an iPad because they have these in school because they start very early to make them do things on the iPad so it took us a year to decide that it was okay to get one and most of the applications they have are in English.

**Q. And with friends?**

With friends it's English but they have French friends and that is super funny because those French friends are Franco-French but they speak always English. They are from the school so they speak English with their siblings so when they're with my daughters they also speak English. So when they come home from a play date it's super weird to hear them speak English because I say it's the only moment you have to speak French because at school I understand they are among other children so that's the common language so they speak English but at home I say it's a pity. I don't ask them to speak English, I say it's a pity you could be speaking French and have fun speaking French and because for me it's the only way for them to get all the vocabulary that young children have when they play. They didn't get it from me even if I play with them. I guess it's different and they have to develop that childish language for my daughters they don't have that with those kids so when I come home even if they are French and speak English sometimes they switch in French for a particular game. I don't get it but most of the time they speak English.

**Q. Do any of them ever feel frustrated?**

yes. When she mixes, its okay for her, it's the best way for her to express herself because, for example, in Italian she doesn't have enough of vocabulary to express herself so she's going to find a way to make her grandmother understand what she means but you can tell that she do it, she is happy to do, it but she struggles a little bit and sometimes she comes to me and says, "how do you say this?" and I try to explain how something is and when I don't know how to say that and she doesn't understand what was she goes to her dad that's mostly in Italian.

**Q. Do you think they have the same level as other children who maybe have only that language?**

For Italian no. English I don't know because most of the kids coming home, most of them are not English speakers, they are Swedish or French, some of them are from Hispanic countries and it's difficult for me. Sometimes I think she speaks better and sometimes I don't know.

**Q. Have you ever had any concerns about your daughters' languages?**

Yes because when she turned four she couldn't say /er/ in French or Italian and here at school they didn't realise because you don't have that sounds and so I talked to and then but she said no for me it's okay, even the teacher said to me we don't have any concerns about her English and she's learning, but for me it was obvious because /er/ in French is one of the most common consonants that you have, so if you don't have the /er/ in the sentence, so I decided she should have a test with a speech therapist and she came to my place when she was five and that was in French and in English because that was part of the problem. We had to understand if it was problem of the languages she was exposed to and French and English are the two main languages she is exposed so the person is Canadian and she used to work with the school in Lucerne then she said, "no, I can do both French and English" so that's perfect. So she came to my place and she started to play and do some test that don't look like tests just to make. I told her what my concern, but she wasn't looking for something special just an overall assessment just to understand because she didn't know and at the end she said just give her some time. You have some kids we don't really know why they need time and she just needs some time. She is fine now with it but the problem is that, that is the problem, was the comparison with, and it's not that I didn't want to do it but it's not conscious, but started to speak very early and she always tries to pick the right word and is not like that, so now I know that since that moment and it's me that's the problem not .

**Q. What are you expecting from the assessments?**

I expect them to be quite bad at Italian, especially for the vocabulary because we always use Italian in the same context when we visit the grandmother and the family so even something common. Like my husband comes later, we have dinner, we always wait for him because that's the only moment we can

share a moment together, but they don't get the vocabulary to play they don't get the vocabulary for even common things at home, like if you ask how do you say cupboards, I don't think she is going to know. If you say go get that in the cupboard then they go and get it, they understand it, but if you ask how do you say 'cupboard' in that sense I don't think they will get it. French and English I think [REDACTED] is going to be fine for both and [REDACTED] for English is going to be okay. French, maybe some words, especially if it's like flashcards or something specific, maybe two minutes later she gets it and say the word but she's not the kind of kid to do tac...tac...tac because of her, sometimes you don't understand if she doesn't know how to do something or if she doesn't want to do something for any reason. [REDACTED] is going to be difficult for you to understand because she has to be pushed a little bit just like the Italian in Italy because she surprises us. Sometimes you know how to say that it comes from somewhere deep in her brain because she has to so.

My only concern is that they start now they are in the school for five years, they start now to play in English because [REDACTED] is bringing English in the game and her sister just replied and I don't really like it because it's once again it's the only moment they have to play in French because they don't have the option to play with French kids because they speak English, but it's a pity because [REDACTED] really likes to speak French but [REDACTED], she acts like it's easier for her to go to English because she plays here at school all day long in English, so for her it's a natural language to play. That was not a problem for [REDACTED], she is nine, but it's the first year I hear [REDACTED] playing with [REDACTED] and replying in English so for [REDACTED] it's never been a problem but for [REDACTED], and I don't want to tell her speak French because that's not a good thing, but I think it and I don't know what to do because I'm the only one who speaks French all the time to them and that's not enough to keep all the aspects of the language, it's not enough, I have my family coming once in a while but they come when it's for Christmas and once for Easter and that's not enough so.

## **G7 and G19 Interview 2**

I was expecting that [referring to G19's BVAT-NU results], it is logical. Maybe I don't realize it. She used to say I'm a chatterbox. I tell her and she'll say "you see". it's good to know that. I was expecting less for Italian. When she came back she was telling me I know synonyms end it was not that good but she understands that but she was not happy what she did so I told her you have to, she reads a lot, and I told her read more and try to learn it. She is superlogical in everything, she is like that and I think she likes it because it was new she had never done that before and she likes challenge so I think she likes that one.

### **Q. Do you do word games?**

We talk a lot about everything. She is very curious. Everything, whatever, and we are very open, and that's her personality to always talk, talk,talk, and maybe she doesn't listen enough but she works on that.

We have been talking about that [the Picture Vocabulary test] once with [REDACTED]. [REDACTED] has had the test, they don't really do them in school, it was a kind of test and I told her, first if you can, do what you know first because they are too young to manage time, really need first to do what you have to do so we can understand what you know. If you go one by one, you follow each thing, you spend a lot of time because you don't understand the question or how to do it or anyway, you gonna, miss time and you will lose the opportunity to show what you can do, and [REDACTED], she was there, and [REDACTED] did what I said, and she was quite happy and said it went okay and "I did not know everything but I started with the ones I was able to do and it's okay, I did my best" and she was happy and I think [REDACTED] got that because since then whatever we do, even reading, she started reading and she says "I don't know that" and vweet [gesture of skipping], but [REDACTED], no, she would stop and try to understand, yeah, she would stop reading for example, and [REDACTED], no, bam, bam, bam and go on, go on, go on, and I go and "I do first what I can do and then", I am not surprised. [REDACTED] - she is always try to do things properly, that's why I tell her to do what she knows first and separate questions because you don't know how to manage time, and you lose a lot of time and it's frustrating to finish a test and you did not even have that possibility to do, but [REDACTED], no. I don't worry about [REDACTED], I don't worry about [REDACTED] but for different reasons. One is so organised and something positive will come out, and the other is like freestyle but very. [REDACTED] is more intuitive and she looks like that, plays like that, speaks like that, whatever word comes to her mind- french or English. I used to tell her, the most important is to express yourself, whatever language you use, the most important is to express yourself but make sure the people in front of you understand you, so make the effort to look for the English word if that person speaks only English and she is doing better and better, but that's interesting really.

That's very funny because we never do such games. She is logical too but she doesn't really focus and I think you have to focus make it, to get the word. Maybe I should do more such games I think because she doesn't speak much, not as much as [REDACTED] French and Italian. I told you [REDACTED] loves English but maybe it would be a good way for her to to improve her French and Italian, to do more games and this kind of. But you see, that's not normal to have such a big difference, I guess she wasn't focussed or interested in the picture, however, but she is able to and yet to see the difference, maybe she liked that game, trying to find a way to answer. Something that [REDACTED] never never will do is guess. If she doesn't know she says it's like cheating. I ask [REDACTED] "why you don't use guessing to read? That is something you are supposed to do, it's part of the job - it can help" and she is like "no, because it is like cheating. If I don't know it, why should I guess. If I don't know it, I have to learn it.". And [REDACTED], she is more flexible. I didn't expect [REDACTED] to have the breadth with the synonyms and the antonyms, but that's good. I tell her she has to be conscious of what she knows and what she can do. But once again, it is easier to know what [REDACTED] knows than what [REDACTED] knows because of their personality. If [REDACTED] is not interested, she doesn't care, but [REDACTED], she'll challenge herself, she really focuses on what she has to do. If she doesn't give you an answer, it's real, she doesn't know and [REDACTED] it's difficult to know because, does she know or does she not want to

answer? I think she likes the sound of English because she likes the fact that she plays with her friends at school and I can understand, I also like the, also like English. I like the sound, I like the language. I can understand that but again, we try to get her to understand to focus on the situation and the people. English, yes at school and when we meet friends who don't speak French or Italian then okay, there is no problem, but otherwise, she has to choose the right language, no? [Talking about the word scissors] if you say 'forbice', she will go and get them but if you say what's the word, she probably doesn't know the word. Both of them understand better than they can speak.

**Q. Do your children have good memories?**

██████████, yes, I think so, once again it comes to personality. She is very organised and in her room and in her mind everything is quite clear, she knows what she does, I think that's why her memory is quite, very, she has a very dynamic memory like tact,tac,tac, and ██████████ she has good memory, but once again, it depends on the situation. I know she remembers things but in some situations, she just doesn't care. For example, we have some rules at home and she knows the rules, and it's not even a question of memory but she will say, "I don't know" but I know she knows, it's just that ██████████ more than ██████████.

**Q. Are your children musical?**

Better ██████████ than ██████████, but ██████████, she's not the kind to like, she's once again, she's a square, and I think for the music, you have to let it go and G, they both started an instrument this year in the ██████████, and ██████████ is doing guitar and ██████████ piano, and ██████████ was super quick, everything at piano, learning piano, and she is doing super good. She has a concert today and she is doing super good and she wanted it and she wants to continue. And ██████████, she's good but she works a lot. I mean ██████████ she doesn't work much, ██████████ she is good because of the work she does.

**Q. Was it what you expected?**

No, French and Italian for ██████████, I thought it would be worse than that. English, I thought she would be in the average as I know they both like English and spend four to five years in this school and they did a lot of EAL, so I think if they want to, they have to be good because they started quite young, so English yeah, but French and Italian. For ██████████, French I thought she would be good, Italian not that good, not that good. Yeah, most of the time they know more. But as a parent for me it is most important is to see those connections you do with English-French and English-Italian because I see it as a whole - do they know without focussing on the language or another concept, the words they know whatever language it is, because it means their brain, their brain functions good. At the end you will see that most of the children will have those scores, no, so it's confirmation of that when they speak several languages, they have a wide vocabulary.

One of the first things I told ██████████ when she joined the school in ██████████ and she couldn't speak English, and I remember she came back and she was frustrated because she likes to, that's the way she

likes to express herself with talking, talking, so she couldn't talk and express herself and I told her "it's not like you don't anything, you just don't know it in another language and that's a big difference. You just need to get to know those words which you know" and she started to feel more comfortable.

When we arrived they only had French and Italian at home and everyone was saying "French and Italian and English, those poor kids!" They couldn't understand they could make it, and I was like "No, everything is going to be okay" and now that I see that, that they are quite comfortable and what I have to do to help them learn more French and Italian, I really don't worry about German, it's the opposite, I would really like them to speak German more often and learn it more seriously and I really don't worry, and [REDACTED] is looking forward to learning Spanish.

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### **B13 Interview 1**

#### **Q. Tell me where you were born**

I was born at that time in the Soviet Union so it was a country which consisted of fifteen different republics in different cultures. Each of the republics at that point had their own culture and language. I was born in Ukraine so my mother tongue is Ukrainian. I was born in the [REDACTED] part just next to the [REDACTED]. Ukrainian is spoken in that part but it is part of central Ukraine, but yes people do speak Ukrainian there because the other part is Russian-speaking. I was in the Ukrainian speaking parts so let's say my mother tongue, that this is the language I spoke to my parents, to my grandparents is Ukrainian, which is the same group of Slavic languages, but literally geographical, if let's say close to to the Polish language to Slovakian language and yes to Hungarian and Slovenian is different type of language but Slovakian and Polish I do understand and some Polish, and I do understand some Slovakian when they speak and there, at that time, Russian was the one language we were supposed to speak right and learn so I went to the Russian school, but Ukrainian was our second mandatory language so I finished the school and I was bilingual, into languages, so my diploma I had has given me the right to go to any Russian school, I mean high school or Ukrainian school.

#### **Q. Did you have a choice? Did you have schools in Ukrainian and Russian?**

At that time yes, now we don't have it any more, it's only Ukrainian because Ukraine is totally independent now, which is when you think about this, it was fantastic, so even in the Soviet Union at that time there was a lot of respect for those languages, so we had the choice. I went the Russian route because it was also in a way my family was spread as well so we had a family also in Moscow and let's say from the education point of view I would say my parents who influenced me in a way, I went

to Russia and to Moscow, yes, so I was successful and I passed the entry exam and I was accepted by the [REDACTED] at that time.

**Q. What did you study?**

So after I finished that, the high school in Ukraine, which is high school equivalent to seventeen years old, then I went to Moscow and I studied for five years at the [REDACTED] and my main subject was Economy, Trade and Marketing and after that, so that was all in Russian and actually in a way I can say but after the Soviet Union collapsed I migrated to Russia because I was in Moscow and Russia and had accepted Russian citizenship, yeah because, well after the collapse, most of the countries they weren't allowed to have that citizenship just to kind of avoid the confusion and back and forth probably recounting the population so I accepted Russian citizenship and I lost my Ukrainian citizenship so am currently, I actually have Russian and French but that's because my marriage to a French man. It's mostly dictated by the Ukrainian rules: I can't have both so I had to give up for Russian. I spent seventeen in the Ukraine, in Russia. I'm seventeen in Switzerland and so after I finished university then at that time I was exposed to the academy I studied I also had a very open international outlook and actually very good connections and student exchange with the European universities, particularly the University of St Gallen, ETH in Zurich and then at that time I had active life outside of university. We had a bunch of people who set up the [REDACTED]. We set up like an office for [REDACTED] in Moscow and it's also at that time it gave me a little bit of the open mind and desire to continue studies in [REDACTED] around, I actually passed the English exam which was done by the British Council in Moscow and I was granted a scholarship in England for one year and I had a choice I can't remember which the choice of the university I was given. I have chosen the University of [REDACTED] but there actually, what I want, but I can't remember. I did the Masters there in Banking and Finance which was really great in terms of you know seeing life a bit outside of the Soviet Union and to practise speaking and at some point I just felt, let's say with Marketing and Economics academic experience it was really so undeveloped, it didn't really have Marketing at that time and so I was very curious and really wanted to have a better education. That's the point of time in England so I was so excited that I was accepted and then one year after I finished after I actually completed my Masters. I did the thesis. I was back to Moscow and I started my international career. I was working for the for [REDACTED] and then was in banking and then I continued basically with Finance, that was the main area I have at that time started and I am still doing now so in Switzerland then I met my husband who also although he's coming from more of a French one language family, very French culture. He was also interested or curious. His parents were promoting a bit of multilingual concept. It's interesting because his second language was German and a couple of times his parents organised for him family exchange with the family in Germany next to Bonne so his second language was German which was unusual for a French classic family. He said his German at some point was better than his English and then he also applied for a couple of scholarships and he was accepted at the University of [REDACTED], so I met my husband in Russia because his dream was to read Dostoevsky in the original language, which you know, that was a little bit too much and he realised once he opened the book because he

thought that he knows Russian and then he opened the book, actually for a language exchange with a few students in Moscow and I was on the other side helping my university like you know volunteering to accept those students and find them a home and to organise some social activities for them and this is how we met. Back at the time I didn't speak French time so now I speak Ukrainian, Russian because English has been mostly my second and third or third language and professional lives is my first language because I have ended up working mostly in international companies, Russian companies and then French. I also speak French because of my husband and because French citizenship, German but basic still.

**Q. So how did you learn French and if you have French citizenship does that mean you lived in France?**

Nope, I never lived in France with my husband. [REDACTED] was born in Switzerland, then but you can apply for French citizenship once you pass the exam which is a very simple oral exam at that time it was oral sided all and not reading and after thirteen years of marriage, so I think why can't remember now because we have been married for almost eighteen years so I can't remember at some point they granted me, which gives my life easier with a Russian passport. It's still problems with travel.

**Q. You said your husband came from a different environment. You said he was quite French. What was your husband's history then?**

He was born in France although I say it's close to the border. It's across the English Channel, but all I'm saying is, you know, he was born and brought up in a very French environment, both the parents are French-speaking like in my case, although in my case my parents Ukrainian, but I went to the Russian school, and his parents just had the one side of it, but they were also encouraging my husband and his sister to learn different languages as I say German and English.

**Q. Does he have the same educational background as you?**

He, well, he went to the, he actually finished the French system, so that I finished the Russian system, so we both went to our language high schools and finished high school and then he also went to the French university or let's say their high school French system it's like, yeah, university type of thing and then he, he is like me, we both have two degrees from different countries. My first degree is in Russian Economics and Finance and the second is Money Banking and Finance from the University of [REDACTED] and my husband has Engineering Degree but he got from the French school system and then he has a Masters of also Engineering from [REDACTED] University in [REDACTED] and then he also studied one-year in the Paris at the School of Economics or something. He also had a bit of an idea. He is in trading so I think actually he has the combination of the Engineering and the Economic skill does help in this kind of job, trading because he trades metals, so it's important to understand the whole productive side and the engineering and the trading and how the whole production to trading to the marketing works.

**Q. And what language does he use at work?**

It's English. And most of my life's work life has been in English.

**Q. How did he learn English?**

At school I think, but in French school, so it's German was his second language and then I think when he was at high school in France, then he started English as well. So my husband and I we both kind of, in a way, we completed languages so we both speak languages, we have different mother tongues but both of us speak Russian, French, English and German.

**Q. So your husband also speaks Russian?**

Yes he does. He learned Russian somewhere in the school. He volunteered. At that time at school his second was German, third was Russian and then it was English. It's a lot so obviously we are coming from the background that let's say [REDACTED] and I and the [REDACTED] they pretty much have no choice but to speak all of the languages so this is not the family where we ask your family's opinions - this is our life as a family.

**Q. How would you rate your proficiency in your languages?**

Well, Russian first, Ukrainian, English, French, German.

**Q. How do you rate your husband?**

French, English, Russian, German

**Q. Are you both proficient in all of your languages?**

Yes, I probably am less advanced than him in German because his reading and understanding of vocabulary you know is much more advanced than mine, but probably he's fresh in his written German. Russian is not as good as my French because I continued to improve my French now where's he only use to day-to-day Russian language because of my family, yep.

**Q. When [REDACTED] sees your parents does he speak Russian or Ukrainian?**

Russian

**Q. And when he meets your husband's parents he switches to French?****Q. And how does it work in your family?**

So just with me we speak Russian and only when it comes to the school life, homework, project work, let's say particularly international school is a lot of project work which comes home so that I need to help with English, so we need to go to the English websites and Google things and we're doing that in English directly. We don't go through the Russian website surfer. We speak Russian but then with the writing we switch to English. Yes we are switching a lot. In fact, we are switching a lot but we don't

even realise it but people who come to visit us or families they say it is actually insane the way we speak, and especially people who don't understand all these languages. Let's say my family speak Russian and then some English and that's it and probably some German so for them we don't do things like we focus and consciously tell myself: now I will speak Russian, this is this kind of, you know, it's more dependent on the subject and the people who are around us usually at the dinner table. I find that this is how naturally we have chosen our languages. We first tried: I would start the conversation in Russian and then my husband and my son will continue talking to me in Russian and then he will say, he will respond in French when my husband asks him a question so often it's two languages, but there are, let's say, like I know recently with the French election, most of the time when we speak about this in French because it's a natural reaction and at some point you also want to be efficient and to not lose time on translation all the time so I would say that the subject of the conversation does dominate also the language, so if it's the French election or general in French, then we will continue in French the three of us. If you talk about Russian family or Russian event or Russian something then my husband would, also probably with me, he would speak Russian and then with my son he would probably continue in French regardless. We do use English because of the work and the professional environments. Most of our friends speak English so yeah, well, if you have people around our place then it will be English.

**Q. So how does it work if you speak very good French and your husband speaks very good Russian? Do you you speak those two languages between you or do you also speak English?**

It really depends on the subject so there are no rules. For example, now I'm taking the French course so I've kind of become selfish and I do want to practice my French so often I would initiate the conversation in French you know just because my motivation, then I will do better in French. It's just more fluid do it we are not so conscious. Let's say we are more relaxed now. We were in a way a little bit stressed when [REDACTED] was born because that is the real test for family, you know with what language you choose as the family language. I must say that my husband and I are respectful for our own mother tongue languages and we kind of agreed that we will equally stimulate Russian and French, and English will come automatically and German automatically because just being here, so that was what we agreed. But at the beginning, let's say, when [REDACTED] started talking as a child quite late, let's say late for children of his age, he wasn't saying anything before he reached three years old. He started to make a proper sentence once we sent him to the international school, but at that time he was three he didn't speak English so then it was another year almost because he was in an English environment and I still kept him in the nursery school in local school and so German was his third language. So, frankly speaking, I don't think he started to talk in a way nicely with sentences until four and a half.

**Q. So before the age of three, which languages had he been exposed to?**

French, Russian mainly at home. English, no not before the international school and then some Swiss German because you know the local Speilgruppe. He started nursery at two years old until three years.

It was not full time, it was just two full days, he had at that exposure to German and then as he turned to read we sent him to an international school. He came here and there till at that age you don't have to go all five days, so I still kept two days in that school to three days here and two days in the nursery school until the age of five or six. I can't remember when you have two five full days and when I stopped this with school then the German drop dropped immediately.

**Q. Has [REDACTED] had a nanny?**

Yes, he has always had a nanny and the nanny always been Russian, a Russian-speaking nanny from Russia. But we have also tried during the summertime, we would send him for one, let's say two weeks per year to France, sometimes three, just to brush up his French with my husband's family.

**Q. And now [REDACTED] takes part in different formal levels of schooling: he attends school in different languages. Tell me more about that.**

He attends one day after school for two hours of Russian language per week. They give him quite a good homework. French, he is part of the mother tongue activities school which is one hour and then usually we do homework so I'll do with him the Russian homework, usually work, I would say extra one to two hours at least as part of his homework and my husband at home he always does French homework with him in addition to what [REDACTED] does here, that they continue their own curriculum, you know, like French who live abroad. He doesn't do the correspondence course but he does something he discussed with his mother tongue French teacher. He follows something so he does that as well, so he actually continues with his grandma. Because [REDACTED] does it naturally at the Russian school. That year the focus of this class is more social and conversational skills so my husband does extra in terms of grammar and writing.

**Q. B13 can read and write in all of his languages?**

Yes

**Q. How do you think his languages compare to other children who speak both languages?**

You know from my experience, I do believe that some main criteria is who are the parents and what is the language at home, so let's say if you compare [REDACTED] Russian to the Russian kids and the Russian kids I call the children who have both parents who are Russian, then he understands everything, so his understanding is actually probably very close for speaking. I would say in terms of vocabulary I think he has a bit less vocabulary but he does not know it because we don't know what we don't have, but I don't think he is concerned about this. He is just basically okay with it so I would, because you know my godson who comes to stay with us every year in winter and in summer, so I observed them both in this way, so not for once I saw [REDACTED] intimidated by the boy who is one year older and he is coming from 100% Russian speaking environment and somehow he just is able to deep dive into this Russian speaking environment and feel out whatever. However, if you give him now a choice, I'm always interested to see this choice and if I give him the choice of a movie, he

would always go English first, so his choice of languages would be English, French, Russian and when I ask him, because he tells me, that he has now started to realise there are more common words between English and French, it's different group of languages with Russian and English. He would, in a way, feel comfortable. We have been a couple of times to Italy and Spain and he is quite comfortable with those languages he is able to somehow to apply his French base into these languages and he told me that he has already decided that Spanish is going to be his next language naturally. It's out of discussion, that's it, he says, "mum it's a shame that I have to wait one year because I think you start at grade [REDACTED], otherwise I would start it now" so you see, so I think he already immediately sees that the advantage of Latin languages group of languages, so he knows he can come to the language with the baggage. *Luggage* is a French word, with *luggage*, and he has found his advantage and he uses that easy and he likes it when it's a bit easier for him.

**Q. What language does he choose in different situations, so if he's reading a book does he have a preference?**

I would say he's a boy, I'm nine years old, so football is everything, so let's say if you take the same book and you would give him English, French, Russian, that's actually more complicated. He will go and pick up the English first, Russian is a bit less because he doesn't follow the Russian sport and so it's a kind of shame now I am thinking that again when it comes when my godson, he's coming, he is naturally motivated because he has to speak good Russian with him because his English is limited, but I have actually noticed even do remember when you asked me the question if children are coming from the Russian-speaking environment these children are Russian then they will have maybe less Russian vocabulary than those kids because they speak Russian all the time, so he would always speak Russian with those kids because he feels that they speak Russian better still than English although it also depends if the child has been to an international school, they have a tendency to more and more speak English.

If you have friends over or if he has friends over and they have play dates, what he does he speaks French with French friends or Russian with Russian friends or they use English. I think it's a bit more, I think it's as simple as the languages. I have noticed more and more that it depends on the cultural background of the kids but also the subject, so let's say if it's a simple formula algorithm, he knows that Russian kids speak good English and they decide to speak about football, an international subject, they would end up speaking English because you know they are speaking about a big international club so they speak English, but they still will probably continue in Russian because most likely I'll speak Russian and then he'll speak Russian to me, If it's the French-speaking children, they will probably end up speaking French but if it's Russian, French, German then they will probably all end up speaking English.

**Q. Does he have a mix of friends?**

Yes, in fact I think he really likes it, he likes to have diversification. He says, “mum all kids are different and they all have different hobbies and interests”, so for example, his best friend for so many years is interested less in football so then he at times replaces this lost interest in football with another kid. He says Spanish-speaking kids mostly they’re crazy about football so somehow he does apply according to his needs but his friends are at the international school, Danish, Spanish, Dutch, who else, Swedish yeah, a lot of Scandinavian children, English as well, but I also in a way I find that [REDACTED] [REDACTED] has also natural respect for children like himself who speak more languages, you know, so, for example, when we were travelling around Thailand for the Easter break, so I was concerned that was very stressed about going to kids club because we were at the [REDACTED] and so my [REDACTED], I arranged her to go to the [REDACTED] club so we could also travel a little bit around, and [REDACTED] went to the kids club, the junior club, and he was very nervous before and he said, “oh mum” because when we landed in Bangkok he realised that it’s a different part of the world, different languages, different region and he understands, wow, it’s not all about English any more all of a sudden he said, “I don’t speak their languages. They speak Thai. I have no idea what this language is”. It’s that he almost couldn’t sleep and so he woke up in the morning and said about “mum, you know you want me to go to kids club so I’ll just go there it’s 9-to-4” and he was kind of repeating, “I know you want me to have my independence in a situation where not all of the kids speak English or French or Russian but I’ll do it for you”/. He was really stressed and then he ended up actually being friends with the Chinese boy who was born in China but then his parents don’t speak any languages other than Chinese or I couldn’t communicate with them but they moved to Hong Kong and they have sent this boy to the international school. I think it’s bilingual, I can’t remember so the boy was pretty fluent in English which was amazing after two years so [REDACTED] ended up with this boy because he say he’s interested in being the best in the school at ping-pong and he likes ping-pong so they became friends and he was training with them all the time and ping-pong, at the beginning he was not at the level but he ended up playing really good matches and saying that the boy was so interesting and he was telling me about his school, “so can you imagine he speaks Chinese fluently, same as me” I see quite amazing for him to acknowledge the fact that he speaks fluent Chinese - how great is that and then there were other kids he said, “mum he’s like me he speaks French and English fluently and I think his mum’s Chinese so he must also speak Chinese as well” so he understands that these multicultural families’ kids do speak different languages and he’s very comfortable with such children because at the end they probably are not a hundred percent fluent in their mother tongue or father tongue - they all end up probably speaking English and being at the same level with each other. He will just be friends with them but I think he finds those kids like him in a way more interesting because they can cover more topics or he has probably more comfortable connection, he immediately says, “he’s like me”. I remember this and I will remember saying “what’s different between you and him?” but he says he also speaks all these languages so already relates himself to these kinds of people which we encourage, me and my husband, we encourage this very much because I find this is amazing to have this intelligence - it’s a natural way for these children to find a way to communicate with each other and they have no barriers between you and he was born in Thailand. I do think that those languages

bring a bit of an open-mind and remember my Russian godson on summer we went to the Club Med in the French system and I think there were also Chinese everywhere in terms of they also like to travel to Europe for their children to practice different languages, and for example my godson who is 100% Russian, everything to him he would see different kids from China and they would use chopsticks and for him it was like 'wow look how interesting they are', differently living in Moscow, very Russian city, so this is interesting they have similar interests that they are different and mentality is different.

**Q. What language does [REDACTED] have on his electronic devices?**

English

**Q. And we talked about friends. Do you think [REDACTED] can fully express himself in all of his languages? Does he get frustrated?**

Yes, he will use less words actually, he you might be frustrated, but I think he will figure out how to say because again with my mum or my parents, my husband mum parents they only speak French or Russian so he has no other choice than to use English words so that's it he has no choice he has to express itself and its always like this so it's just from the experience point of view and frustrated I don't know, I think, I think if I am around, if anything, I don't think it's frustration because of the languages, I think its age and puberty and all the emotions show up. I don't think he has language frustration.

**Q. Does anyone in your family or friends share any concern about [REDACTED] languages or said anything to you in terms of that?**

Yes, yes, I remember because actually the age between two and three obviously I was concerned that he was not speaking literally, so I went to, at that time he was also going to Russian a few hours, he was going to the Russian-speaking nursery school, so before he went to the international school he was going maybe one or two days, mornings in Russian and Swiss German, some of them were probably also bilingual Russian-German families and then I remember one of the Russian teachers told me, "you know that he doesn't speak good Russian" she said, "perhaps you should drop one of your languages" and this was the case when he was at the international school. I remember his first year he basically wasn't speaking any languages so at the age of three, he turned three in [REDACTED], he was born [REDACTED] and the he goes to the international school. He is the [REDACTED] in his class so he was not speaking at all, so obviously it didn't help with my fears because then he went to the international school and my child became new he was actually almost like a baby he went again, backwards in a way he was using more of the symbols, body language. I remember I went to the local speech therapist and they say, "we don't know it seems like we can't assess his languages because we don't know which languages to assess but in terms of understanding the motoric, the patterns, the assessments they do for the child, he's okay, he's more advanced than you would expect". I remember they tested him: can you build a pattern, how would you play, view, construct the people the train and

all of those things. Then they say, “we can’t tell you why he’s not speaking, we can’t say what’s wrong with him but international school is good because if something is wrong then they will pick up the dyslexia or something as long as you are consistent and do not change the schools”. Then eventually if there is something people will tell you, so some people told me drop one of the languages but which one I can’t remember - that’s the way it is and that’s it and I think the whole speaking he always understood when I talk to him or my husband but talking back and at that point he was confusing a lot of words even if he was trying to say something it was not really in sentences, it was more words and then he was confused and it was a German-English or anything just to express himself, but then naturally he put all of these languages into their respective order in his little brain. A couple of years there was a question about, not the fluency but his speaking skills in terms of expressing himself. There was still observations that sometimes he might be stammering a bit so he doesn’t find the words or let’s say the words don’t come easy and his mind and he wants to express himself then he would be like “mum can you please, can you please, can you...” until it came out. It’s the second year he’s been taking private lessons with [REDACTED] a speech therapist but I have just had a meeting with her last week and she is done with him. There is a few things that he will be improving for the rest of his life but that’s it. The teacher suggested it but in [REDACTED] we also met with you and we were thinking if and that was in [REDACTED], yes it was great to and you started to look at his languages, yes so at that time it was mostly the fluency and ability to express himself in different languages and how easy it was to find the expression. It’s almost like he needs a few seconds to find the word, but again if it’s English I have never seen that he will bring French or other words, he somehow always tries to find himself the words and to complete his sentences or his expressions. It’s just sometimes it takes him little bit longer.

**Q. Have you found a speech therapy helpful?**

Yes very much, so because number one [REDACTED] is great, she is just so professional and she is so good in identifying the issue and consistently coming and being strict, and so the way she did with [REDACTED] is they focused on the sound on the English phonetics. When I speak now I’m just sharing the words with you but obviously there is something going on in my mind so that it comes automatically so that I can express myself, but I have noticed that [REDACTED] has improved because I see him thinking when is in the middle of the conversation and is trying to say something - I see him putting more time into finishing his sentence so, in fact, it helped obviously, she trained him to take a deep breath which is coming from your stomach not just from the nose and then automatically you slow down, calm and then you do it again and I think that’s what he needs because then he gains bit of time which must be a bit difficult for him because kids, they want to be faster, want to express themselves the fastest, is the winner because it doesn’t matter how smart you are it’s how fast to kids. Since for this and everything that, look, we might find in two years time he has dyslexia or something worse than that but I do believe that it’s probably more a personal quality I find that the way he wants to do whatever he does profound, he really goes deep and he enjoys learning so I think it’s his qualities and you know some people are naturally born speakers and some people spend time and training.

**Q. Do you have any concerns about the future?**

Because obviously we have friends, I have noticed for whatever reason its necessity that parents had to go to different countries so therefore they had to change to this school. I just thought that you see immediately in multi language children the knowledge is more solid and profound when they also go to different school systems, as I mentioned I have this idea which us if I find a solution, I think it would be great if [REDACTED] went for one year or a few months to the French system just to be exposed to the French language just to improve his writing skills and to switch up and to have a deep dive into the French environment again. I don't have a solution yet that would be something good because A. I see academically he is quite capable of doing this and he is the [REDACTED] in the class so we could do the whole year in Russia or France and then come back and you still will be a win-win situation and he will not lose the year. Whatever we do I don't think it only lasts, it's the opposite, it's a benefit. its credit, it's going to add. It's a deep dive into it. I don't know I also felt myself; it just does help to go. When I was a student at [REDACTED], it's just great to be in an English-speaking environment day and night because that somehow everything falls nicely into places and it's like it's training for your brain, somehow you just become more fluent and there are so many things before when I was in Russia, that said my English wasn't bad but it wasn't fluent. I have lost some words and when I need to watch something in Ukrainian, but then I go back to the Ukraine and after two days being in a completely Ukrainian environment, that's it, it's all there, all of a sudden and I don't need to worry, I don't need to go and take Ukrainian lessons, I don't need it, you just go deep dive and it's all there for you, and I think that might add to his profound basis for his French language and then, look, that said I will figure out something with Russian, conversationally he has my exposure and to Russian speaking kids, so he will be fine.

**Q. What do you think my assessments will show?**

I think it will be pretty much as I say: English will be probably his strongest, but also I remember from me being a child you have natural motivation to improve your language, language you speak to your friends, because with parents you don't know that word, they will correct you, the kids are mean to each other that probably how should I say this if you compare him the same coming from multi-or bilingual family, he'll be definitely the same level and if you compare him to the 100% French, I would not be surprised, the ability to express himself a little bit would be behind, but in terms of understanding the way he finds out if any situation, I don't think, I'm not worried about this and the same will probably be for Russian. Let's say it's French and reading skills because he was reading to me in the car today because he didn't do his homework he forgot so he was reading in the car again, he's a bit now behind because whenever he has time he wants to read in English and that's another thing for him, motivation, he knows that his friends here all speak English so that's why again I need to remind him that he has his Russian school homework and that's why to be a good parent it's still best if they go to the school then you don't need to nag them all the time. With Russian homework like this it's natural but I do think it's a challenge for parents like us with my husband, is just to

maintain the level of the proficiency in all of these languages because naturally there's more homework, there is more other activities, there is less time for other languages and I also know that some people give up on these things, like Spanish school or whatever, they say it's enough in school which I find it's a shame because then if you don't read Russian, to me, then you can't read, it's as simple as that and you can't read what is written - it is in a different alphabet we'll say.

### **B13 Interview 2**

I want to have a look at his French and I also need to find a school. By doing this, you can do more harm, more damage, than benefit. And for him, he is becoming self, and I think he has already opinions about things.

I always ask him how he felt his assessment went and he said, "mum, I feel like English is my first language and I want that to be, I was quite happy with the French, but with Russian, I felt I understood everything, but I think the teacher was upset because my level wasn't good enough to have a fluent conversation. I understand everything, but sometimes mum I just didn't find those words, but when she asked me the question, I know exactly what she said" I said "that's fine, it was not a test of everything, it was just to exchange ideas, just to see how these languages find a place in your brain, you know" and then he say "we need to find a place for the fourth one". You know he wants to learn Spanish and it's a shame he has to wait for another year and not do this now. He wants to be with friends. He already has a team of French speakers so that's what he told me. He feels like Russian is at the bottom.

I think Chinese and Arabic, the way people think, is close to Arab, and Russian way of thinking is close to Arab, numbers, for example, I think so the way of thinking, vocabulary is completely different, alphabet is completely different, but I would say English and French, it's still, French is Latin and English is Anglo. Anyway, there is a connection.

He does read for the Russian school, but let's say, we have our ten books from the school library all in English and I say "do you want to take one in Russian?" "Well no" he says, then my godson comes and I know they will read so I am not really pushing, do you know why? You know he does his school programme and he will probably be one of the best in his Russian class, of course for his level, you know why do I need to torture him and I know I will find a way, a more creative way to make him read one or two pages per day, which for me is already a bonus.

You know what, I think he is using English a lot to build up this [French] because he knows this, but he already knows and he is always looking for this similar word and he uses English for French but somehow, I don't know how, he doesn't see French could work the same way, that is, let's say, he

would be looking for a word in French and he cannot find it, he will just take an English word and say it in the French way but he doesn't understand if he is in English and doesn't know he can do the same and use French but he hasn't clicked that yet. He feels English is his strong language so he's okay, but French he knows that in a way so you see the moment he discovers, I think that should also go up because all the time he is looking up the word in French he thinks the word in English is this so let's try add a bit of the French ism, you know, pronunciation but he knows it's not going to work in Russian. It's just totally different. I mean you can say 'revolution' and 'revolutia' but he has to think about this.

I was just talking to the teacher by email last night and if there were any recommendations for the next year, you know I always ask because he remains the [REDACTED] in his class and it's always the beginning of the year for us is a challenge. Every year it's the same. I know we have discussed this for so many years, but it's more of the mental challenge because each at the beginning each grade he has to quickly restructure his mind. So I asked the teacher to give me something so I can prepare him so he does not necessarily feel discouraged or over-challenged because that's bad for people to be over-challenged, so then she says, maths he is great, he is fine with numbers and everything but she says, try to give him more word problems. He is very quick with the mental maths but word problems, when he has to understand the text, and apply immediately, find out, he could be faster. I know in Russian school there are a lot of word problems and it's very strong. In Russia it's all about the logic, learning by heart and logic. I may even use the Russian stuff for this. That's what she said to me so again I see it here. When he is in one subject he likes going deep down and enjoys going into it, if he likes this obviously, so she tells me to challenge him to get his thoughts down on paper, draw the line and done, and move on.

I admire those parents who have very fixed ideas. I learned from my professional career that it's very bad to be a stubborn person, because eventually you will lose in business, so I am trying to be as flexible as possible. To me it seems like this, wit and see. We have decided about the English system, we are not going to take him and put him back to the Swiss system or 100% French system because he loves the system and I think you have to be consistent with your decision. French I thought it was nice because it's a different academic system which I think we have already learned and it will just add to his fluency in the language. It will certainly strengthen his writing and reading part because there it's going to be in French and English probably, once per day 45 minutes, I just hope he will maintain the English at this level but he should. He is already good with ten years old but there is no danger of him losing English and then I guess what he wants him to do. I am sure my husband would love him to study in French. I don't feel it is necessary but I guess it is better to have options than to stick to one.

So I guess my findings, we can certainly try the extra year in the French system and then come back to [REDACTED] and then maybe this will go higher [French scores]. Very good, I'm pleased with the

confirmation of being consistent with these three languages can result in something so pleasing for a parent.

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### **B16 Interview 1**

Today we are separated with [REDACTED] father. We have been separated for three years now. We're French so our mother tongue is French. We speak French to the children because we are in a multicultural environment and our new partners are foreigners and mine is Australian and [REDACTED] dad, [REDACTED], partner is Russian, and the nanny she takes care of the children after school until we come back from work. She is Spanish.

#### **Q. Have you always had the same nanny?**

This is a difficult topic. There is a lot of competition, you cannot always afford to increase the salary of the nanny, anyway, that is a different topic, anyway, it is not the same we have had this one for a year and a half now. I have never had big issues with nannies but always made sure they are Spanish-speaking speakers because committed to coming to Switzerland. [REDACTED] was born in France. He wants to be born in Mexico but he was born in France. He has no memories of France at all. We moved to Mexico and we stayed there until [REDACTED] turned four years old and we moved to Switzerland and we have been here since [REDACTED].

#### **Q. What is your job?**

I work for [REDACTED]. I'm an asset manager. We have two businesses and are traders. We reduce all what we buy on the market, and the asset managers work on the ground and what we do we process it and we make and produce metals and I work in the [REDACTED] so we are organised by commodities: copper, zinc, aluminium, whatever, and I work in zinc. I used to work in [REDACTED]. I was financial auditor but I was specialised in oil and gas industry which is very close to the commodities industry. It is the same kind of business and I used to audit the contract so, how can I say, on a field on a gasfield you have a contract. People they tend to share the responsibilities because the investment is so high that you never have any one person operating the field: you have one operator and multiple investors and I used to audit that because the operator have to, has the obligation to give some feedback to the investors. They put a lot of money in it and they want to check that everything is done correctly so I used to audit that. When we moved to Mexico I had a freelance contract with [REDACTED] and after a few years I got pregnant with [REDACTED] and I just gave up. I was happy to be at home.

#### **Q. Do you need any special education to do that?**

Yes, five years of law. I'm a tax lawyer, the French tax lawyer, exciting! So five years of law and I worked two years in a law firm. I can say I was in a small city in [REDACTED], France, and I wanted more, I wanted bigger firms, I wanted multinationals, I wanted to travel and I applied for a business school called [REDACTED] in Paris, they accept me so I moved to Paris and then I got a contract with [REDACTED].

**Q. Is that the same for your husband?**

Yeah, he has more or less, not in law. He studied five years of Economics and he went to a very famous business school in Paris. He works for [REDACTED] and he is not [REDACTED], he is below this. My current partner does not believe in education. He is Australian and very straightforward but he is educated and he went to university in Australia but he is a [REDACTED] in [REDACTED] who is not, how can I say, highly intellectual. He doesn't like that but he's very practical and he has a good sense of business. [REDACTED] father's partner I think she works in [REDACTED].

**Q. What languages do you speak or use?**

Three, more or less: English, French and Spanish. English is the business language so I have no other choice. In Spanish, I learnt it in Mexico, I was very motivated and I thought that in Mexico they would speak English, but they don't and the funny thing is they don't like it so because I had a bit of time, I went to university to learn Spanish and I don't know, Spanish was an easy one. English is not an easy one but Spanish was an easy one to absorb.

**Q. How would you rate your proficiency in those languages?**

Now English is easier for me, between my partner and school and even the children it's the dominant language, but I know I don't speak it well and I will never be able to express and nuance everything. That I can do it in French. The issue is the more I speak English, the less good and the more difficult it becomes to find words in French but my level of English kind of remains the same. I'm not improving any more and my French and Spanish, now I speak Spanish with the nanny. I start to understand German but I didn't take time to learn. It is less motivated in Spanish.

**Q. Is that the same for [REDACTED] father?**

He is quite better than me at languages. He has a very good level of English and very good level of Spanish.

**Q. And and what about your partner?**

It's all English.

**Q. And [REDACTED] father's partner?**

She speaks Russian and I think she speaks English because they speak English at home and I understood from the children that she knows a bit of French too.

**Q. And your nanny? Is your nanny also educated?**

So Spain is not in a good place economically speaking and we have a lot of Spanish immigrants in Switzerland. She is like [REDACTED]. She has two children and her husband was working in the building industry which had a massive peak in Spain and nowadays there is no jobs anymore so she came to Switzerland because there has a lot of demand for builders and now she is a nanny, cleaning lady and nanny. She spoke Spanish all the time with the children.

**Q. Are there any people in your family environment that have regular contact with the children, like grandparents or uncles, people?**

Yep, my parents, they come regularly. They love being with the children and they helped me a lot on holidays. When they come they speak French and my dad used to work in English so he's not bad for a French man. My mum speak Spanish, actually she lived two years in Spain and with my children and it's all French and the children reply to them in French. They would never talk to them in another language, it's not natural. As his parents also come here, so his parents are separated, his mum speaks French and only French, and his dad speak Spanish, English and French and with the children it's all French.

**Q. Do you have any regular friends?**

We have very good friends. We see quite often, for instance [REDACTED] mum, [REDACTED] and she is a French speaker. [REDACTED], she is a Russian speaker, speaks French but we speak altogether in English.

**Q. So tell me about [REDACTED] educational background?**

So when he was at the age to go to school, like preschool, I sent him to Mexican preschool. He was two years old.

**Q. Before the age of three what languages was he exposed to?**

French and Spanish and he would speak Mexican and that was really funny. And he would speak perfect Spanish for his level and proficient French for his level. Nowadays it has changed a bit because he's more exposed to English and English became the dominant language. So when he was the age to go to school he went to an American school. That was the [REDACTED] in Mexico. The [REDACTED] school was taught in English but most of the children were Mexicans so they would play in Spanish and in the playground and they would be taught in English. In Mexico there are very poor people and very rich. There is not much in between so we were there with very poor amongst the very rich people, so they send their children to the international school and you don't have an international school as such. Your English school or German or French, everyone never send them to the local primary school. So we came here. Our expat contract ended in Mexico so someone was working for a French company called [REDACTED] and they offered him a contract in Sweden, Stockholm. We were very happy about that but then he got contacted by a former colleague from his previous life and they

put him an amazing deal and we thought it was amazing but that's a different story. [REDACTED] was, he turned four the following month when we moved to Switzerland so he started in preschool but the name wasn't preschool it was pre-K and it was in [REDACTED]. After one year or one year and a half, we arrived in December [REDACTED] and I had no school because here was full. They offered [REDACTED] a place in [REDACTED] and I thought that was too far away so I initially registered him in the [REDACTED] Montessori because they were said to be bilingual. They weren't, it was all German. English was just an extra to German so I wasn't happy, so I took him out very quickly and then he was sent to [REDACTED] so as of [REDACTED] 2012 until [REDACTED] 2013 he was in [REDACTED] and then he came to this campus. And then it's all been here. The Montessori thing was just one month and I remember I had appointment with the principal or the person in charge of the school and she was like all "your [REDACTED], he gets angry" and I was like "yes of course, because he doesn't understand" I thought yeah it was a real bilingual environment but it wasn't it was German.

**Q. How does [REDACTED] use his languages?**

Better as it is easier for them. That it is like they are not monkeys so they decide and they know when it is the right person and the right language to talk to, so if I ask him what if I starts to talk to him in Spanish he will answer in French. He speaks mostly in French but when my partner is there then we make the effort to speak in English. Now that's when him and his sister mix French and English. They don't mix it in the same sentence but they might have a little conversation in French and then suddenly they switch in English. I'd have no clue what the trigger is, I cannot tell you. I don't think it is a topic thing or it is a spontaneous thing, I don't think they even think of it. I believe [REDACTED] father's partner makes the effort. I'm not sure but I think she makes the effort to speak French so I think French is the dominant language in their place. Specifically I think English is his dominant language. I think then its French and then Spanish. It used to be French, Spanish, English. You would be amazed how quickly they can forget the language at that age. I have seen this with [REDACTED] not really [REDACTED]. She used to go to the Kinderkrippe I have videos of her talking in this German with the accent. I thought it was so cute when she came here within three months of not hearing Swiss German. Nowadays if you ask her maybe she refuses or I don't know if there is nothing left. There is no contact with German now in their lives. There is nothing so maybe that doesn't help: no clubs in Swiss German or anything. So with [REDACTED] I don't think French has-been the dominant one and I think it's the language they speak with their friends and in his case it is the language that they are most exposed to. He has for some reason, he gets on well with the French speakers after school and he is very good friends with [REDACTED], but they speak English. I had [REDACTED] several times at home and his French is not so..English is more dominant. With [REDACTED] it's English as well but [REDACTED] is in French. Outside, so there on the dad side there is a French-speaking family and they don't speak English but his level of French is very good but naturally it is easier.

**Q. When he wants to read and write?**

It's in English. He always writes in English and he writes, if we can call that writing in English, you know that [REDACTED] is dyslexic, so now he has caught up with reading completely to the level but writing this still makes me want to cry when he will write something. He will get there so I didn't force him to learn to read it in French.

**Q. How did you get him assessed?**

The assessment we did that thing in [REDACTED] with someone and he has dysorthographia - its more an issue with writing.

**Q. Is this something you noticed or did this come from the teacher?**

I noticed there was something wrong. I couldn't tell what it was. I thought like all parents who have kids who is dyslexic that he was lazy or he wasn't focused and then I was like, no there is something more than that but it took me a bit more time because what [REDACTED] used to do is when you know, when they come back home, I don't know if you have noticed that he has a memory that nobody has, and he would know the book by heart and he would read it. They hide it because I believe [REDACTED] is also dyslexic because she doesn't know how to associate letters yet and she is in [REDACTED]. I was trained by him to notice that there was something.

**Q. Were you happy with the assessment?**

I think [REDACTED] at the right place. I don't refer to that thing too much I was more happy with the way the school help him. He has a higher level reading level than his peers. He loves reading and he always has a book at home and when he starts book he doesn't stop. He doesn't read in French, that is something I decided. I would love him to read in both languages and to write in both languages but I want him to succeed in at least one and I think being dyslexic is a tough one so I don't want to force that I will leave him in peace. He has expressed an interest to read in French. He does but I am a bit scared.

**Q. Watching TV, do the kids have a preference?**

No it can be French or English it really doesn't matter

**Q. What about the radio or music?**

It is English, common. We don't listen to the radio but [REDACTED] has his iPhone and his iPhone language is English and we don't have a computer but when we do it will be in English.

**Q. How well do you think he expresses himself in his languages?**

Too much. He is a chatterbox in any language with the nanny in Spanish. No, yes, no problem expressing himself in any of his languages. He's very good.

**Q. Is he ever frustrated about expressing himself?**

No no no sometimes it's just like. I am satisfied with his levels . I don't think he's normal, I think he is slightly above. I can compare him with Victoire and though she doesn't absorb as much as [REDACTED]. I think every language is quite high.

**Q. Have any of your friends family expressed any concerns about B16's languages?**

Not in the direct environment. I read articles in the newspaper, shitty things that didn't really make sense for me and about the fact that the kids can be confused and that the level of languages will never be good. The background behind the desire for my children to speak several languages is we used to be expats with my parents. So we lived in Saudi Arabia, Dubai and Egypt when I was a child and when we came back to France I was nine years old I hated it, I hated it so much. I was in French school when we came back. I was at the international school, I was taught in English but when we came back to France I was in French school and you don't learn English until you are 12 years old so in between you can see I am not an English speaker. I hated coming back to France. I hated that narrow environment and my dream since nine years old was to be an expat again. It was to travel and to be an expat and we are very French, my parents you can track my mum's roots from the 12<sup>th</sup> century. We are very very French. I was the foreigner at school because I came from a different country. I hated it.

**Q. What do you think the language assessments will show?**

English, French and Spanish. He can express a lot everything. With Chinese and Russian these languages are so far apart that I regret, I wish I had pushed [REDACTED] to learn Russian and Chinese. I missed the opportunity.

**Q. What's your hope for the future?**

It's easier to adapt yourself whatever you are, you can always talk language. It's an amazing ability. I think it's a good skill skill to give him. I have no plans for him.

**Q. Did you make a conscious plan?**

I worked two years and in these, I couldn't breathe - I wanted to travel and I wanted to travel for work so when I joined [REDACTED] most of my colleagues and we had similar backgrounds and it was very international and everybody loved travelling because when you are a financial auditor you better not like staying at home because you are being sent for a three weeks mission to country or region, so I met [REDACTED] father there and his dad was an expat as well and I believe it came along the lines that we said the one who had the opportunity, the first opportunity to move abroad, the other one will follow him or her, so he was the one who had the opportunity to go to Mexico so I followed him.

**B16 Interview 2**

He talks a lot, I told you! Could it be linked to the fact that he speaks English mostly with children and French mostly with adults and Spanish is with the nanny. It could be linked to the context he uses it. That makes me think I should send him to camp in Spanish because this is it, he only speaks Spanish with the nanny so it is always the same vocabulary used and in the same contexts to develop his language.

The thing is, English is not my mother tongue so when I don't know a word or when a word doesn't come quick enough, you have to think of another one so maybe when you speak several languages and it's a gymnastic you do with your brain without even noticing it. You want to be able to express yourself so you find a way without even knowing it.

And yeah, it shows that it is a good thing to stimulate them with two languages, it's even better than just one.

I am like, no I don't see him struggling. I don't think it's the same area in the brain because he doesn't learn his languages by reading but with the ear. You know what you could look at next in your study is the link with music. He is extremely skilled with music. It's really funny.

.....  
 .....

## **B6 Interview 1**

**Q. Can I ask you about you? I would really like to know some more information about where you were born.**

I was born in Ecuador, in [REDACTED] ...that is the [REDACTED] city in the country about three and a half to 4,000,000 inhabitants. I was born to a German mum and a Puerto Rican dad so from very little I already had the two languages.

**Q. It's Spanish?**

Yes, my mother tongue is Spanish although my mum is German but my mum also speaks Spanish and German so she was already mixed because my grandfather, he was German but my grandmother she was Chilean, so but she was also always talking to her dad in German and to her mum in Spanish.

**Q. So your mum moved to Ecuador?**

Yes she moved to Ecuador when she was very little, she was about 11 years old when they arrived there and then, well my grandparents moved to Chile when I was about... I think I was just born, I was a couple of months old or something like that and obviously because my mum was already married and had a baby and married an Ecuadorian guy so she stayed.

**Q. So your family were already quite a mix of cultures and languages?**

Well they were quite pure German until my grandfather decided to marry this Chilean lady... was a big deal because it was the first one in his family marrying out of their German community so my grandma worked really hard just to, she my mum used to make fun of her, say she became more German than the Germans. If anyone is going to know the recipe book in the kitchen and German recipes, that was my grandma, she is going to do it even better than the other German ladies because she felt she had something to prove... you know what, ...”hey I’m the outsider here and these people won’t have anything to say about me”, so she actually never learned German, I don’t know why, I think she was a woman of many talents, I think she could have done it but maybe she was pretty busy with five children.

**Q. But your mum learned German then?**

Well yeah, my mum always spoke German to my grandpa and Spanish to her mom and my mum was really close to her dad she was the apple in my Granddad’s eye, she was the favourite child for my Granddad, it’s like she could do anything, there was nothing she could do wrong - it’s like she is perfect.

**Q. How did it work with you growing up?**

My mom was already bilingual so she married an Ecuadorian guy and then what we did, it’s because my mum and I think she saw that at home with her family, because it was always my Granddad talking in German to all his children and my Grandma always in Spanish and I guess maybe she complained or she heard complaining that “I don’t get a thing” whatever, so she said that wasn’t going to happen in his family so we were not allowed to talk in any other language than Spanish when my dad was around, so German was the language that we used to just talk with her when we were going out same thing but if dad is there, because she wanted communication to always be open and in the house it had to be Spanish all the time.

**Q. And your parents spoke together in Spanish?**

Yeah..but my dad speaks English as well, but I think with a lack of practice and my dad is already ████████ so I think it’s a little bit rusty nowadays but he doesn’t speak a single bit of German.

**Q. So how does it work with your children?**

They know when Grandpa is present they have to speak Spanish. They follow my Mum’s rules when Grandpa’s present and shut up you have to change to Spanish.

**Q. And then you speak Spanish?**

English, German, and a little bit French.

**Q. So how do you know those languages?**

Well then, when I started school very early I think, I was I think I was a year and half and then I went to the German school always and they had these special classes for children just like you have here, the mother tongue, but there it was everything mother tongue, all the subjects, and you just get your language lesson in Spanish or if they didn't manage to find for some subjects that were only part of the Ecuadorian curriculum, those were taught in Spanish, so I always had at least I think the older we got the more complicated it was to find enough German teachers for such a small group so I learnt some of the subjects in Spanish and some of the subjects in German throughout my entire education.

**Q. And is that quite common in Equador to have those kind of schools?**

No, there is, there are three German schools in Ecuador and they are in different cities. The German government has this policy that everywhere there is a German embassy they have to provide education for the citizens so everywhere there is a German embassy there is a German school and that's where all the money goes, all the subsidies, education is very important in Germany so all those German schools abroad follow the curriculum.

**Q. So you really followed a German curriculum?**

The German schools, yes, but the one in [REDACTED] is not the one from the embassy so it's a little bit more relaxed than the one from the embassy city. Because it is not an embassy city you do not get as much money or as much teachers so you get less subjects, you don't get all the subjects in German for the special class but they have mixed classes with the locals and you get maybe half the subject in German, for example, I learned my husband makes fun of me because I'm in Ecuador, you have to, in order to finish your studies, you need to, it's 12 years you come, you count from what would be here from Early Years to though from Early Years to until you finish, it's 12, those are the mandatory years. I think it is only mandatory from kindergarten, that everyone doesn't know, no no, it comes from first grade, from first grade its 12 but I think nowadays Kindergarten is mandatory as well so you have one years for it was only voluntarily or something like that and then you get in that particular school you get half the subject in German and they put you in special groups if you are better languages, for example, I only learned Chemistry, the six Maths Metrics in German. My husband makes fun of me I know all the elements and Chemistry in German but when I have to think it in Spanish, although I am native Spanish, it's how do I say, that I didn't learn it that way so.

**Q. And your English?**

I learned English when I was about 10 years old. I was in fifth grade, just like [REDACTED], but I've always liked languages maybe it's something we are used to be raised with two since I was little so and even like I guess all my nursery rhymes and stuff, I learned them in German even though I was born in Ecuador but I don't know a single nursery rhyme in Spanish. My friends gave me some when I had children and they said "you need to to bring the culture of the child and know these nursery rhymes". In German I don't know those so they gave me, my husband's family, they gave me a CD and these are the typical nursery rhymes for your son to learn. It's strange but it's like when you are

part of this German community in Ecuador you go to the German school, we are usually the ones that are Protestant. There is only one Protestant church in the whole country, it's in Quito, the capital, so the priests come down to [REDACTED] once a month and then you get mass, so you basically know your whole community because you get together once a month for mass and I know the [REDACTED] there, she attended my son's christening because I grew up with them. It's a small community. We all know each other, it's like after a certain point I work at the German school because it's hard when they need someone somebody that speaks German and Spanish and English, then it's really hard to find someone outside the community who can attend that school.

**Q. Did you do all your studies there and university?**

Yeah, I went to university in Ecuador. I studied economics but then well then I had some teachers, some of the macro economics teachers they said okay it takes too much time for the the editorials to translate in books from English to Spanish so for that university to finish you need to prove a level of proficiency in English and computer and other stuff so some of the best teachers, they taught their lessons in Spanish but all the material that I learned from were in English, so they said the Spanish book is not available so buy an English one and you have to refund there.

**Q. So all your degree was in English?**

No, it all the tests and stuff were in Spanish but some books and materials, they didn't arrive on time in Spanish so.

**Q. And did you continue your education or did you work after that?**

I started working after that.

**Q. And what was your..?**

I have been working in banking, not since we moved here, and now that the children are a little bit older I want to start going back, but apparently I am too experienced for some roles and to be honest with you, at the beginning it's like my husband finished his job here and we we were on an expat contract and then we didn't want to go back to the UK so in order for us to stay he had to quit. He took redundancy, so we considered, so I said okay things here move a lot slowly then in the UK. In the UK it is like in three months you are already starting a new job, your first day in new job here, it's like it takes them some months to answer your CV application and whatever so we're getting stressed, we were getting desperate, so I started looking for jobs and everything and everything is really slow here. Thank God he already found one so we are staying and I think now I have to rethink my whole strategy because his new job is going to require him to travel so that means I won't be able to go back to work full-time but I have to find something close by and part-time or something like that so someone can be closer to the children.

**Q. So in terms of your experiences, how would you rate your language proficiency?**

Well, I am native in Spanish & English. I could say I am totally fluent. I have studied in English, I've lived in England for nine years, I completely understand writing because I'm used to that because my husband he's also bilingual. He was brought up in Spanish and English so most of the time, and I think we got used to that when we work in English in England just talking half the time in English and half the time in Spanish.

**Q. What about your German?**

I talked German with my children. I'm fluent in everything and I tested with Honours and degrees on stuff. I wouldn't say I can, I don't know, I can write a book or something like that. I wouldn't go.. I will go crazy and study literature and German, for example, I don't think my level is up to that. I think I would struggle with that but today I think I am totally fluent. My weakness would be in situations that I haven't experienced, for example, if I'm talking to doctors, it's like illnesses and stuff, I always talk with them, and Spanish for the first part of my life, and after we moved to England, for example, all the stuff that is child-related I only know in English not even in Spanish, you know like all the moms, we always going for my Spanish-speaking friends as well "how do you say that in Spanish", it's embarrassing but I only had children when I was living in English so I learned all that stuff from that time. And the same with the German, it's like, for example, I did a language course like specially for German in Economics so I learned all the vocabulary from my profession in German, but that sort of special, specialised vocabulary I wouldn't say I'm native because I have never lived there, but I think there is certain things that you any acquire by living there, different contexts, different sort of things, new structures you're acquiring only by living there experiencing stuff, and I am lacking to specialise vocabulary if I go to the doctor now living three years in Switzerland. I'm used to all the illnesses and stuff but if I find myself in a new situation I don't know, for example, now we have to change the car, so I don't speak car in any language, that's an area of expertise, so it's like tell me what this means, oh no, it's a special word for some part of the car or whatever - that is something that I don't even know in Spanish. You know that's my most proficient language and it's like there is specialised language for every single thing, so it's like if you give me a description of what it is, yes if it comes with the description, then okay, what happens and what it does, I understand what it says because I have the language knowledge - maybe I don't know, I don't have the specialised vocabulary for the specific areas.

**Q. And how about your husband? Did he have a similar situation to you?**

His dad spoke to him always in English, his mom in Spanish. He is Canadian nationality, but he was born in Lebanon to Lebanese parents with double nationality. My mother-in-law had Lebanese and Ecuadorian and my father-in-law the Canadian and Lebanese but he was born just around the time the war started there so because of the war they decided not to register him as Lebanese but only the other two nationalities because they didn't want, thinking, "I don't want my son to go to war whenever he is old enough" so he only has the Ecuadorian and the Canadian, and then they left Lebanon because of the war when he was about two years old they moved to Greece. My mother-in-law says that when

they were there he attended the [REDACTED] in Athens and he started actually speaking Greek and he learned from the children there, and then in London we met and the father of one of my son's friends there they discovered that they went to the same school, they were very excited. Well we met in Ecuador, after Greece my mother-in-law says he used to speak Greek when he was little but then when he was about seven they moved from Greece to Ecuador and then he grew up there and then he forgot all the Greek, but I can see him that whenever there is somebody speaking Greek around him he turns, it's like something clicks in his brain and it must be somewhere behind and it's like he heard something, it's like something clicks and to ears and something, sometimes he understands words and its like it's something behind in his brain but he's forgotten it and he was very little. His vocabulary wasn't too big but then there are certain things. And for an example, in Lebanese you speak French as well, everyday people the high-class speaks Arabic but normal day-to-day the language spoken is French.

**Q. So when they moved to Equador, what do your children speak to them in? What languages do they use with your husband's parents?**

I talk to my children in the two, my husband then I tries to talk to them in German mostly, most of the time.

**Q. How do they speak to your husband's parents?**

To my mother-in-law in Spanish, yes, and my mother-in-law her mother tongue is Spanish. They don't know his father-in-law. It's an unfortunate situation that they separated when my husband was 11 years old or something like that and he's not there and she lives with us so we manage the three languages at home: I speak German, my husband speaks English, and my mother-in-law Spanish.

**Q. And your husband did his education, an MBA, in Canada and did he do it in French?**

You know he lived in Montréal but then after he moved, then he realised Québec, in general, people don't speak French, they speak Québec French, which is mix of English and French and like French from the 1800s or something like that which is very complicated and I was really excited the first time I went to visit him "oh I'm going to be able to practice my French, this is going to be amazing" then got there and I couldn't do a thing, they were saying something and on the loudspeaker and some stores and my husband said "what are they saying?" and "I don't know, that's not French". They declare linguistic independence from France, like maybe 45/50 years ago and they're very proud of that, for example, there instead of shopping they invent words, you just think how does this work to think sometimes they take words from English and sometimes they take words from the 1800s.

**Q. So how does it work with the languages in your household? So with your husband, your kids and your mother-in-law?**

We mix a lot. I read many books when my children were little and they say that you need to try to stick to one parent one language but when you speak so many and there is so much going on it's really

hard. It's really easy on paper but not so easy in real life or it will happen like it happened to my grandparents, or my parents, then it's okay because it's easy, it's like no other language, there's no other escape, it's not like one can speak one language and the other one, there is no one in between for us there are many in between and go to. Well he speaks intermediate conversational German so he can understand mostly when I talk to the children so it's not isolating for him. I speak German to the kids, he speaks German, he speaks English to the kids and my mother-in-law the Spanish. I speak to my mother-in-law in Spanish always and between my husband and I English and Spanish and I, for example, well for my children it's a little bit funny it's like when whenever I try to speak to the, to stick to the German most of the time, but Rebecca's mother tongue it is Spanish because I went back to work when she was about one year old. I did the same with both of them, the difference is when I went back to work with [REDACTED] he went, he started at an English nursery and he was 13 months old and then he didn't speak then so he actually learned how to speak at nursery so his mother tongue is English.

**Q. So he had Spanish at home, English at home and German at home. Was your mother-in-law with you then?**

No, she wasn't. No he had at home, he was talking German, English but I used to work full-time so he spent from 8 to 6 at the nursery and he started speaking around the 13 months and then he started speaking in English, that was it and then with [REDACTED] the situation was different. We had moved where the commute to work was very long so I tried nursery, she started speaking very early she was around 10 months old so she started speaking in German and her first word was cool or just luck in German and then then we started doing the commute to the nursery. And it was too long, too much for me, so I got a nanny but this lady she only spoke Spanish not even English. I had to translate the recipes and everything for [REDACTED] food. Okay recipes I translated into Spanish and this is how you do this and put the English word next to it so so we found us our only Spanish-speaking nanny so after spending so many hours with the nanny she forgot everything about mummy's German and it was only Spanish and it was grandma Spanish and nanny in Spanish and mummy was coming home very late from work everyday so it was Spanish, so she is mother tongue Spanish and then when she was about two years old even my husband used to speak Spanish to her only and I still spoke German to her but because I didn't spend that many hours with her and it was only the weekend on and off she had Daddy, Grandma and nanny speaking Spanish to her and it's only me with the German so it's like the Spanish was there. And then out of the blue when she was about three year's old she started speaking in English and I guess it's because, for her, my husband is always talking in English to my son so, and she always has thought [REDACTED] is so cool, he is the big brother and whatever and like she started going to play group singing this and stuff so she started speaking.

**Q. And what language do they choose to speak?**

English or actually it's pretty funny because he made the effort at the beginning of always talking in Spanish to her and she always make the effort of talking in English to him, yeah, they already knew

which one is the strongest for one of them and so they make the effort. Now he knows that one so I talk to them now, you know now they mainly communicate in English. [REDACTED] loves English. She is fluent in three of them but she prefers English even better than Spanish. I guess it is the easier from the three of them even though she's mother tongue Spanish she always goes back to the English. She goes to bilingual school and still you find her talking two, she has Spanish-speaking friends at that school and they still play in English.

**Q. So with B6, he's had a much more English educational experience?**

Until here he was started Kindergarten in London when he was three and he went to the German school there and for him Kindergarten is like the opposite of her. At the end of the second year he came here everything was in German and in the German system you only learn to read and write when you are six, so in first grade not like here at five or four so he learned to read and write in first grade and then only in second grade he started learning how to read write in English, so when we moved here I remember for a little bit of time he had EAL. He learned very quickly so after he learn it in one language then he switch to the other one and it's like so he was mother tongue English because that's the language he prefers and it doesn't matter in what line, one language you put him into to educate him in now it's like when you remove Netflix and nothing you want to watch TV, you watch it has to be in German, and still it's like, it's the language that is in the heart, so whenever I tried to speak to them most of the time in German, whenever there is trouble, I'm English with [REDACTED] and I'm Spanish with [REDACTED] because I know they that's in the language where their heart is.

**Q. So [REDACTED] was born in the UK? What do you think your children's strongest languages are?**

[REDACTED], English, and after English, German and the weakest is the Spanish. For [REDACTED] I would say she has the widest vocabulary in Spanish. She prefers English but her vocabulary is much more wider than Spanish because I guess she learned more words from that time. I think it's also part of the connection because she has a great relationship with my mother-in-law, she is the Spanish holder at home and my son doesn't have a great relationship with Grandma so it's like for him Spanish is like... Spanish is interlinked with Grandma and with the Grandma here and he has a great relationship with my Mum who is like thousand kilometres away and with my Mum he speaks German. So my mom only forces him to speak Spanish when my Dad is there on the sofa, for him, Spanish is the grandma here and he's like he says "she drives me crazy, get away from me" so it's not great, so that doesn't help his Spanish either and then on the other hand [REDACTED] is friends with grandma and [REDACTED] so.

**Q. What language does [REDACTED] decide to do these things...**

**Q. If he has to read and write?**

He hates writing, it doesn't matter what language it is in, he doesn't enjoy creative writing that's the problem. Reading he loves reading in English and I think he's more enthusiastic now I got a library card from the local library so now he is more enthusiastic about reading in German and the teacher here starts giving him awards for whenever he finishes so that he prefers also because I think you

have many more juvenile books in English, it's very hard to find the literature for his age and that was actually originally written in German or in Spanish most of them are translations from English authors and we always try to make them read the books in the original language and you have a larger variety in English, so no, so the literature for that age is particularly, it's not very broad in Spanish or in German you have like when they get a little bit older in grade with teens there is a lot more.

**Q. And when watching..you mentioned when Netflix is on..**

We disconnected Netflix. We cancel the subscription because they both wanted to only watch Netflix and so I said you know what TV is going to be in German from now on so only local TV and the only one that has the things that they like to watch you know here you get from every country all the languages but all these sort of things that they like to watch like the Disney channel and Nickelodeon and whatever it's in German.

**Q. How about clubs and activities?**

They do activities with the Swiss kids, yes, they have swimming and [REDACTED] does [REDACTED] as well with the Swiss kids.

**Q. And what about electronic devices?**

I change them to German my mum suggested it and it was good tip. Older mums here are very resourceful that then my husband started complaining "how come I don't understand when it says" so I said it's too much trouble and sometimes he sets it back in English so we can adjust the settings or whatever and then I find them and put them back on German - that's the only way they going to learn the specialised vocabulary - that's what I learned - that's the way it can work.

**Q. And what about with friends? How does he use his languages with friends?**

English for both. They're playing language is English. His friend: one is from [REDACTED] and his best friend is from [REDACTED] and the other one is from, is an Italian boy. He could like, he could make more friends with the German kids or the Spanish-speaking kids that he has. In the German class it is easier because they have been together since they started German mother tongue and they don't move that much so they have been friends since they were here but they only see each other one hour like every day and then the other ones they are all the time together so it is just how it works, it's not like he doesn't have German-speaking friends but the best ones are the ones that are in his class. There is the German ones are the second one and Spanish, forget it, when I when I found out there was a new Spanish-speaking boy in his class and the poor kid didn't speak English I said "don't be mean, didn't you raise your hand when they asked for the languages and staff to help translate for this poor guy who doesn't speak the language" and he said "no" "what you know you can translate, you can be helpful and he's like "okay I'll go and talk to him" but he's always hiding it. I don't know he's always hiding that he speaks more languages. I think he doesn't feel confident enough in Spanish. I think he understands more than what he actually speaks but for the lack of practice, because he almost doesn't

have any its Spanish-speaking friends, he has them but in Ecuador, he has them since friends because I take him to the school there and you can practice Spanish and then the Spanish improves a lot. At some point if we stay the whole six weeks there, he is almost without an accent at the end of the six weeks but then we go back here to Europe and he doesn't have Spanish-speaking friends here, actually, there is a boy that is also mixed languages and also Spanish-speaking but I think that boy also prefers to speak English and he has a very bad relationship with him.

**Q. So how well do you think [REDACTED] expresses himself in his different languages? Do you think he can express himself comfortably in these languages?**

I think he is most comfortable in English naturally. I would say I think expression is a big issue for him for all the speech problems that he had throughout the years so we are going to finish speech therapy now at the end of this year and now he is a lot more confident at expressing himself also because, yeah, since last year the children started noticing okay he stammers and they started making fun of the stammer and everything so I think he became a little bit more shy and doing. About expression, even though he's obviously pretty fluent in English it's not about the fluency because of the knowledge it's about the fluency because of his stammering.

**Q. Does the stammer occur in all the languages or is it worse in one?**

It doesn't occur in Spanish because it's not, he's not that fluent, but the more fluent he is in one language the more it's going to pass on to the other one because in his case it's something stress-related and so whenever he is in stressful, it can be like extreme happiness but excitement because someone that he really likes is coming or it could also be something really sad is coming so he needs to learn how to deal with that and he has received training from the therapist and everything how to manage that and he is a lot better now when you hear him talking and he did exhibition and presenting and everything and he was not relaxed about the whole thing, but he really, at least he did not stammer at all, so he doesn't stammer at all but there is still a lot of stress because he knows he has to control that and it's not natural for him like for many other children it would be natural, for him it's not. He has to put the extra effort, still hopefully with time that will get better but you never know. You just have to learn how to live with it. I just tell him that you know what it's like, I suffer from [REDACTED], it's never going to go away, I just need to know how to manage it, you know not using, so don't expose yourself to too much sun because you can get it. "[REDACTED] it's going to be itchy, there is nothing you can do about it. Its just the way you were born and how to deal the best way you can with whatever God gave you".

**Q. In the languages he hasn't developed so much, he actually doesn't stammer?**

They say because he has more time to think before he speaks so he doesn't stammer but in the ones that he's fluent in English and German then it comes out, although now it's been great so.

**Q. And do you think that he speaks at the same age level as a kid who is German mother tongue or English mother tongue?**

I think that would be only achieved if we move to a German school just like what we had in London, but even then I think English is such a strong influence that they still prefer English even if it still happens even in the school in London he had all the lessons in German and still they used to play in English. It's really hard, that's why you just get rid of Netflix and more TV and in England what we used to do was just start, we didn't have a cable box and only in my room and if you wanted to watch any of the series we used to order them online from Germany so I got all his favourite series in German so we could put the DVD only in German you want to watch Star Wars.

**Q. What do you think the language assessments will show?**

I think they are going to show English is his mother tongue so I don't have any worries about that. In German he is going to be able to understand more than what he can actually say actually reading and verbal.

**Q. The test is oral only – it's only verbal..**

Okay, so I think communicating, that's perfect, communicating that's what he uses with me. Every day I was reading, he is very good he reads the same books like the children who go to the local school. We get the ones from the the grade 5 from the local schools, not enough, he always says "what's that new words that you use?" sometimes we use slang because we are native Spanish speakers and on in books and vocabulary and they are basic from that region of that country and now it's very specific so that we have to translate, for example, he got a Pictionary or Trivial Pursuit or something like that, he got the Ecuadorian version - that was really hard, it was very local and they use a lot of slang and stuff and my son doesn't have this slang it's like he has conversation Spanish and goes to school and to read and write and that's a lot of thing but this slang, that is something that you only acquire by just living there and being with other people that level or jokes in Spanish is really hard for him to get and it's not like a joke but when it's something with a twisted sense it's like those he can only get in English and if age-appropriate. Also he's only 10.

**Q. So what about the future? What are the plans for the future?**

I think we are not going to talk to him. I think we're going to focus on his strengths and trying to make the best out of it so we have, we were thinking about changing him to bilingual school but the one that we really like was there is the [REDACTED] so this would've been perfect because my husband was working on that side and we would have managed to move everybody there and it was a lot so we decided that we would keep him here keep with the English and also because of his language issues, I think we should try to keep things simple as possible for him, especially, I have to admit that and I have to accept that languages are not that strong. It is my son's strengths so if we want to get him, if we want to get him the best chances of good university, we'll want to have to stay everything in English. That's the language that he can handle perfectly and he will still work on his creative writing

even if he doesn't like it. He enjoys reading a lot. He read the whole Harry Potter series in three weeks so it's only about the laziness that he doesn't like to write: lack of attention, he's still forget stops and capital letters because they're passing from the German into the English but there are things that if I give him back he says "oh yeah" and these are all the mistakes - it's just lack of attention, it's not that he doesn't know. We just decided maybe next year even not the mother tongue classes at German but one where he gets more grammar, more structure because in the mother tongue you don't get that much structure so I think you need a little no help with their stuff and for him to take Spanish heuristics, and understands it so that will be an easy one but if you give them, if he gets Spanish app that will be too low for him because he understands everything that's going on but that's a great way of getting good grades and good grades is the only thing that university cares about. The other one she loves languages and she even speak Swiss German so maybe she will go that path.

## **B6 Interview 2**

He always had a big vocabulary for his age. When we had to do the testing and stuff when he had his hearing problem, so after the first surgery, his vocabulary like two or three months went from below the average that was because he couldn't hear to his peers the level of his peers and above. He lives his life in German with me and the same thing, even the English homework and he goes home and we talk about school and whatever he has in homework in German, so not only for the German homework but also for the English homework. We practising the Spanish now because he have then Spanish test for the next year, the one he had during this week. I'm actually, he needs to do. He understands more than what he says. He doesn't want to read in Spanish. I've tried. I still have the books there that are supposed to be for his age and he Spanish-speaking authors, because my husband is very keen that whatever we read, we should try to read in the original language. The problem is there are many more authors in English for his age than in German or in Spanish. It is a struggle to find that so I think he is going to end up cheating my husband and just buying Harry Potter in Spanish - he is going to read it either way. Especially for that age - in English there is a lot. In German and Spanish there is less, especially when they get a bit older, Spanish becomes really popular, I don't know if you have heard of the literature title "Magic Realism" from Garcia Marquez, okay, but those guys, I don't think they are appropriate for my son because of the way they write. They play with the language so I think it's a book that is entertaining, I love them, I love the way they write, I think they are entertaining and god for people who are mother tongue, but for someone who still doesn't have an advanced level in Spanish, it's actually confusing because they basically destroy the language in order to emphasis and develop your imagination, but if you are not mother tongue, or have a high level in that language, it's actually confusing, you know you are reading this and thinking can you really do thi - can you just put commas where you want?, it's creation, I think I am not sure if he ever will get to that level, be able to appreciate art without just thinking or getting confused about what is proper grammar - maybe he will get there, I don't know.

My husband tells jokes in Spanish and we have to translate them and they don't always work in English. My husband is always trying to be funny. It doesn't always work but you still have to do the analogy all the time and we have to explain sometime and he looks at us and says 'what does it mean?' he actually understood all the vocabulary but he doesn't understand why it is funny or what is the point of the whole thing so you have to explain the whole thing. That's what happen with the jokes and the double sense stuff, in Spanish, he understands every word but he is still wondering, okay, but what does it actually mean, because I don't understand why these people are laughing. So he is getting there. German jokes are just, we don't tell them. First because I am not funny and second because they are not good. I think if he would have better relationship with my mother-in-law and he wouldn't be hiding all the time from Grandma then his Spanish would get better. I think we have reached a point where he is hiding from Grandma all the time. Maybe when he starts studying Spanish, maybe it will get better. The same thing happens to him, because he has cousins his age and friends in Equador, it also happens to him, the children tell jokes and he says 'okay, what did they say?', he understands some words, just the words - how is that funny. Those are the, that's the difference between a native speaker and a bilingual person. It's like I know the Spanish, if we send him there for a whole year, he will never get to a native level because those are the small things that you get living there. There's no way a book can bring you that and not having one parent talking to you in that language because one person cannot bring all that expertise.

So he needs to put in a little more effort with writing in every language. That is something that we realised at the beginning of this year was that because at the beginning we thought, okay, already last year talking to the German teachers who were telling us that his level was decreasing like she wasn't very happy about his grammar and stuff, and then once they pushed him a little bit harder in English with the creative writing and the English teacher told me the same thing, that he made a lot of dumb mistakes that he could have corrected if he checked it over. Then I said, I actually felt a bit of a relief, you know, it's not a problem as it's not just German, it's in every language he doesn't pay attention.

I still sign him up for all the extra-curricular activities with all the Swiss kids, he manages to find every single English-speaking boy in those. We put him straight away when we moved here three years ago and immediately his best friend became his little boy, when he told me the name of the boy already figured out, the name of the boy is [REDACTED] - 'he's a Swiss kid mummy' he said, yeah sure, I said. His dad is American or something like that and the mum is Swiss but German and [REDACTED] lessons, because the teacher speaks in German, they speak in German all the time. It took him a year to figure out that J, he is still a child so he doesn't realise. For him it was [REDACTED] - German, so they spoke German and then after a year, he realised that [REDACTED] speaks English. So you see that with people that are only one background, then it's like something doesn't fit, so you end up finding another one that's just like you.

**Q. Does your child have a good memory?**

His memory is okay but the one that has an amazing memory is my daughter and she is actually is better with the switching from one language to the other than him. For him, it's a little bit more struggle and maybe that has to do with all the stammering issues he has had. Maybe languages is not his strength and I am trying to tell you that nature is trying to tell me, the stammering, just take a hint, but then so his memory is okay but the little one, she remembers things that I wish she would have forgotten.

**Q. Does he switch languages?**

I think the only thing that tricked me is that he is speaking another language. Now him, not any more, now he is used to me German all the time, so even if I speak in another language, he answers back in German. I think it is has finally switched in his brain after 5 years. After a while switching and translating comes naturally. Somebody asks you a question, and at some point, you are not sure which language you used, and you have to think about it, but consciously, you don't think about it.

He is getting excited now to learn a third language. He is talking about learning French. He wants to speak French and I told him, you know what, why don't you finish something first, like do it properly, like learn proper Spanish, all the proper writing, grammar and all the stuff and after that, if you finish that and accomplish that then I am happy to put you up for French lessons, so whatever, so let's not start with another one for a year, when you haven't mastered one, you still have grammar and spelling mistakes in all of them.

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 .....

**B18 Interview 1**

██████████  
 I was born in Brazil and I studied International Relations and Political Science in ██████████ then I took a sabbatical period in between before the semester to travel here in Europe, so I went to France to study History of Art and to England to study a bit of literature but it was just a pleasure. I went to Brazil for six months to organise all the things like visas etc so I came to France to study Economy Theory and International Economy so I have my Masters and then I started a PHD and stopped and then in France I met my husband, I don't know if it is important that my husband is French, so I came to France in ██████████ and in Paris. So I got married and got ██████████. I started working at the same time as a journalist - it fits me better because it was a research one day. It was economics journalism, heavy metals, it was steel, mines, coal and energy oil and electricity and then better financial market, that the main thing was heavy duty.

So and when [REDACTED] was three years old, he was born in [REDACTED], we moved to Slovakia. We lived there for years. Then [REDACTED] started at the French school but it was not nice. He wasn't happy there so we moved him to the English school so he studied there for three years and then [REDACTED] was born in [REDACTED] in [REDACTED] cause it was across the border and the hospital was much better in Austria. When he was 2 ½ years old, two and four months, we came back to France to [REDACTED] so we lived there for four years and [REDACTED] started to go to the bilingual school, German and French but when he started it was in September and he is from April so he was two years and four months not because we decided to put him in school but he went to the school to visit and he loved it and he didn't want to go out so. So for four years he was in this bilingual school. In the morning he had everything in French and in the afternoon in German and then we moved to Spain to the south of Spain and they both went to a British school. So he was in this British school and it was a really particular school because 95% of the students were Spanish, further 5% were kids from the teachers and we were the only expats. In this region they have this kind of agriculture stuff and it's only farmers from there so they have a lot of money and they all want their kids to be really well educated and take care of the business later so they want them to speak English fluently but there are no international companies there and we went there for my husband's job and it's really specific: he works with offshore pipelines so there's transporting gas so there's one and then we stayed there for only one year this year, they both learned Spanish perfectly because all our environment was Spanish-speaking, English and not really well. With the accent it was really funny because at the end of the year he used a beautiful English but with a Spanish accent like the kids, it was super funny. And then we came to [REDACTED] and I put them in an international school, the international school of [REDACTED], it's an IB school. I thought it was really disorganised, it is not good and I was not happy. It was really small and a lot of amateurism, they were not really international so I changed and [REDACTED] went to a traditional French school, a Catholic school and [REDACTED] went to another international school but one week was in English and one-week was in French. They were all private schools they have never been to local schools. Then we stayed in [REDACTED] for 3 years and then we are here so that's why they change schools four times one year in Spain from [REDACTED] to Spain is one school [REDACTED] two schools and now here.

We have moved from my husband's job. It depends, sometimes I work sometimes no. When I was in [REDACTED] I was with the French ladies. The French ladies, there are exceptions but normally I cannot communicate in English so I used to run a group of English conversation even though my English was not perfect for them it was nice and then I worked in the international women's club organising things and mainly fundraising parts and then in [REDACTED] I used to teach, tutor English for secondary school kids and then when I was in Spain I used to have a good time and [REDACTED] I used to be a personal shopper. It's not a job everyday, sometimes I have something that pops up and I just use what I know. And here I have been doing some tutoring in Economics for the kids.

**Q. How do you rate your proficiency?**

Portuguese is my mother tongue. I think that Spanish and French are the same - out of 10 I would say Portuguese 10, French is 9 ½, and Spanish Spanish 9 ½ and English six.

**Q. How about your husband how would you rate his languages?**

French 10 Portuguese he can understand me because he says I speak patois dialect but I think seven in Spanish six and English you saw him yesterday he has a beautiful English better strong accent that's the main. 7 or 8 and half.

**Q. How does it work at home with your languages?**

It's really simple. I speak only Portuguese with the kids, only Portuguese. I speak French with my husband and my husband speaks French with me and he speaks French with the kids and the kids, it depends on the subject. If it's something concerning video games or they're doing You Tube or something in English then they speak in English. If it is something about France they speak in French and If it's something related to Brazil they speak Portuguese. When we eat dinner for us talking in languages, we don't, we don't have the impression that we're changing. There is no exercise, it's just you know there is no, we don't have to think about it, its like that. It is completely natural.

**Q. Do the children speak Portuguese together or French together?**

They speak all three languages together.

**Q. Do you have a nanny or an au pair?**

No

**Q. Do you have any relatives that they regularly see, like grandparents or uncles or aunts that they spend time with?**

Yes every year we go to Brazil for the summer time so we spend two months there and my parents come over often and my brothers and sisters as well and they see you sometimes my husband relatives. My relatives never speak English they all speak Portuguese, 100%, and my husband's relatives it's always 100% French. For the kids when they were younger, when they were in the car they would ask a question in French and I answered and they said "no we're talking to dad so they know that I speak French with my husband but little kind words like 'my love' I say in Portuguese and the three answer because the boys answer as I'm talk speaking Portuguese they think I am talking to them and my husband knows because I'm looking at him. Is is very clearly separated, it is fundamental.

**Q. And friends of the family?**

We have Spanish friends in those situations we all speak Spanish.

**Q. Does he use his languages equally?**

Now it is less, less. I'm not including Spanish in the same level as I have more than the kids and they have less occasions to practice Spanish than me because here in school languages it's English so even if he has Spanish-speaking friends, he uses their common language which is English, even with [REDACTED] his friend in class, they speak English together. At the point where they love English, I love Spanish and they love English. I don't know why that is. I don't know maybe because they had good experience in international schools. I don't know that happened recently.

**Q. When did they start bringing English into the home?**

Yes, here when they came here but it is forbidden. For example when they are arguing "mum, come on" they say and they say "stop come on". I just stop and say I don't understand. They know I understand English but I just turn my back and go away and close my ears and it was the same thing when we were, well they never lived in Brazil, so when they started learning how to speak when they were kids of course, the environment was French-speaking and they tried speaking French with me and I'm sorry I can't, I don't understand, so they had no choice but you have to be super strong.

**Q. Have you and your husband agreed a plan?**

No it is not a plan, but the thing is even if I speak French fluently since I was a little girl I lived in France for 16 years and I have the French nationality, I don't feel French so I don't know why I should speak French with my kids. They came from my belly: the songs that I would sing to them are the songs that my mum used to sing to me so it was a cultural thing and for me it was clear and even if I speak French perfectly, there's always an accent anywhere you know even if it is a tiny little thing and I didn't want them to speak French and be in France and live in France with an accent because French people really, how can I say this without being impolite they really care about French, so my kids would never be French, 100% French if they had a tiny little accent. Even if they are not with bad intentions, several times I heard this you have small accent. You know I can write French better than 80% of French people, my Masters was in French. And of course the most of the time people say "Ah, you have a beautiful accent" but it's with the wrong person because I'm such a perfectionist that for me in French it's like offending me saying that.

**Q. So which languages did [REDACTED] have exposure to before the age of three?**

Brazilian Portuguese, French and Slovak because the lady who used to work with us she was Slovak and used to speak with him only in Slovakian. She could only speak Slovak and Russian. He had her for 2 ½ years so he had three languages at the beginning.

**Q. What are his strongest languages?**

Now it's quite hard because I think the French is the first even if I saw since we were here he hasn't taken French lessons, I saw that he started to do some mistakes in writing in French like writing with a C, without a QU for his exhibition yesterday. I don't know why English is eating everything, it's amazing but I am not worried because I know it is just a matter of practising. It is not a deep thing so I

think that maybe he has more vocabulary in French but now as he is speaking English a lot maybe English is coming. I think that his Portuguese is perfect. He doesn't have any accent but he doesn't speak like a kid from Brazil, he speaks like an adult because he learned with me so he never had this kind of kids talk never. He has the capacity of translation and sometimes he would use words like in French were really common for a five years old boy, but in Portuguese, it's a really posh word to say and he would say for him naturally and people would say "Oh my goodness".

**Q. Does he mix languages?**

Never

**Q. What language does he read in?**

He reads in all of them. He chooses what he wants.

**Q. And writing?**

You don't write a lot here. In school he writes in English. He can read and write in all of his languages.

**Q. And TV?**

English and French

**Q. And films?**

English but if it's a French movie set in French, and Portuguese, Portuguese and Spanish is in Spanish.

**Q. And music?**

Its German because we listened to radio Pilatus. We have a thing like TO that's in the car.

**Q. And clubs and activities?**

It's English

**Q. And what about [REDACTED] electronic devices?**

He doesn't have devices. He has the video game PS 4 and that is in English.

**Q. And with friends?**

We have mix mix of languages but they all speak English because they are from the school. Oh it's his birthday party two weeks ago and children from different countries came too: French one, Spanish speaker and the others mixed so the language was English, here it's just English French is at home.

**Q. How well do you think [REDACTED] expresses himself in his different languages. Is it the same or is it better in one?**

It's the same

**Q. Does he have any difficulties making correct sentences?**

No, but sometimes it's a matter of age. When the tense is complicated, it's not because he doesn't know, maybe because his brain is not developed to know this tense. Do you know Latin languages? so we have the plus perfect, these are kind of specific and used in certain situations, conditionals too and sometimes he knows how to use but he doesn't know the exact way to, how can I put this, he knows how to construct it but it's the word it's the exact word he doesn't know what it is, for example yesterday in Portuguese for singular third person the verb is has and the third person of plural and 'they have' it's the same words but there is an accent, a small hat put on it to make the difference between the two, but it is only written, so if you listen it is the same word so he was a little bit confused because he said "well it's the third person so I should change" but it seems like I don't change so he said another tense and I explained it is like this because of that he understood but it is sometimes some small things. It is not a matter of understanding, I think it is age and sometimes you don't use very often in Portuguese for example we have 300 irregular verbs.

**Q. Do you feel [REDACTED] is ever frustrated that he cannot communicate?**

No because when he doesn't know all word he does the translation and maybe no words come out but never.

**Q. When you compare him with other children do you think he speaks Portuguese the same as the Portuguese child of French as the same as French child?**

Yes maybe he speaks better Portuguese than Brazilian children, really high level.

**Q. Has anyone ever expressed any concern about his language?**

It's mainly from people who doesn't have kids who speak different languages, you know I don't feel like [REDACTED] made an effort to learn French or Portuguese because it was natural for him as we were super separated the way we did it it was super clear how we split the two languages. For him it was natural to him to know both, so I didn't feel like B18 was suffering because I was not sitting with him trying to teach him ancient Greek.

**Q. What are you expecting the language assessments to show?**

I don't know. My concern now is that he is only speaking English and it is taking taking everything. Everything is in English in our world the music, rap, rock, everything is in English in the You Tube is in English, even if the conference with Sweden or the video games, the series are an English, the instructions of a toy and everything is in English. School, its normal for them, it's easier for them of course, they are kids, and adults, I chose not to continue my PhD because it was easier for me, it was

hard to study the same thing for four years so we have this tendency to choose the easiest way and if they can be understood speaking English why they would trade to make an effort? You are young and even adults here in [REDACTED] speaks English so why should I try to learn German? I don't think it's [REDACTED] thing, from my experience when we were in Bratislava it was the same, the kids they would speak in English because it was the language of the expats. They would speak in English. Slovak is not the easiest language but even in [REDACTED] the mums at the international school have made no effort to learn French even in France where it is hard to live in France without speaking in French but they managed to do it. So I think that it is a pity that it's one thing that I admire this, it's a good thing that French does to preserve French. In Spain in the south of Spain we had to learn the language.

## **B18 Interview 2**

He usually doesn't swap from English to Portuguese or English to French, but French to Portuguese and vice versa because at home we don't use English.

He is able to communicate and understand and he is comfortable at school. The thing is about next year when he is at secondary school. He has the choice to study Spanish here so he will take Spanish. English is taking over anyway. We used to play this game when we travel, word games, like telephone and say a word connected to telephone, or maths and so on and so on. He can play this for hours but never in English.

I am glad that he can follow the school in a proper home and he is able to deal with that. [REDACTED] is away from Brazil for one year so now we are going there for holidays. If you had done the test after the holidays, the test could be completely different. So I don't have any concerns about these results because they are from a part in time, but the thing is, the structure of the language, how the words are constructed, and the rules of grammar, with the rules, being in school where the English is eating everything, it would be a good base to keep all the languages (referring to Latin). People think these root languages are dead but they can just, they are the bases, like flour and eggs for cake, you can't do without, and for the words, you know where they are from, like Don, house, Doma in Slovak and Domicile in French. We just want them to be happy. He's a good boy and very clever. The structure of his phrases are good (in reference to his writing) but for some words, English is taking over, like Plastique in French, he uses Plastic like English. Before in France, he got 19/20 or 19 and a half out of 20, but now he is writing more phonetically, he is forgetting things which is different from before. I would not like him to be with a Latin American teacher for Spanish because of the writing, so only through listening he knows how to write. In Portuguese there are sounds that are written with different letters.

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## Appendix 6: BVAT-NU Individual Child Participant Results and Parent Test

### Performance Predictions

The individual BVAT-NU results are displayed here for each child participant with extracts from the corresponding parent interview 1 that correlate with the parent's language test performance prediction with the actual child test performance.

#### Child Participant B12

##### *B12 Parent's Interview 1 BVAT-NU Child Performance Prediction Before Results Shared Extract*

*"Definitely English is his strongest and then I can't say. If it was one year ago before we moved here, I would say Portuguese then German but now German is competing so strongly with English because of the exposure, it's all around us, even my German has improved by just being here so I think it's really almost equal. So I think English will be strongest and then German will be second and then Portuguese... I think he definitely expresses himself more in English. He uses more words and he is sharper in his sentences"*

##### *B12 Individual BVAT-NU Standard Score Test Results*

BVAT-NU Test	English	Portuguese	German
OVA	127 (Superior)	79 (Borderline)	97 (Average)
Picture Vocabulary	124 (Superior)	74 (Borderline)	93 (Average)
Oral Vocabulary	118 (High Average)	86 (Low Average)	103 (Average)
Verbal Analogies	127 (Superior)	106 (Average)	100 (Average)
BVA1			129 (Superior)
BVA2			133 (Very Superior)
MVA			135 (Very Superior)

The BVAT-NU results show that B12's highest OVA result was in English, followed by German and then Portuguese. B12's OVA standard score is a *superior* score in the L1 (English) version, the language he is being schooled in at the international school. B12's father is reported to have German as a first language. B12 was also reported to have been educated in German when he attended a preschool. There is no difference between B12's BVAT-NU OVA L1 English language proficiency standard score and his BVA1 (English and Portuguese) standard score. The difference between his OVA L1 (English) standard score and his BVA2 (English and German score) is six points and takes his score from *superior* to *very superior*. His MVA standard score is the same as his BVAT2 (English and German) standard score and only slightly higher than his OVA L1 (English) standard score.

- If B12's verbal abilities were evaluated using the BVAT-NU English test results only, his verbal abilities would be considered *superior*.
- If B12's verbal abilities were evaluated using the BVAT-NU Portuguese test results only, his verbal abilities would be considered *borderline*.
- If B12's verbal abilities were evaluated using the BVAT-NU German test results only, his verbal abilities would be considered *average*.
- If B12's verbal abilities were evaluated using the BVAT-NU to ascertain B12's bilingual verbal ability in English and Portuguese, his verbal abilities would be considered *superior*.
- If B12's verbal abilities were evaluated using the BVAT-NU to ascertain B12's bilingual verbal ability in English and German, his verbal abilities would be considered *very superior*.
- If B12's verbal abilities were evaluated using the BVAT-NU to ascertain B12's verbal ability in all his languages combined, his verbal abilities would be considered *very superior*.

### Child Participant G7

#### *G7 Parent's Interview 1 BVAT-NU Child Performance Prediction Before Results Shared Extract*

*"For G7 I would say French, anyway the vocabulary, that English right on the top, so with years it's going to be English and then French. It seems that I don't know if she thinks it's easier or she likes the sound of the language, I don't know but that's life. Italian, but as my husband says we will think about it later. It's much easier than French to learn to write and read, actually they can read something in Italian but in French, it's still very difficult. " For reading and writing it's English. It's English for both of them."*

#### *G7 Individual BVAT-NU Standard Score Test Results*

<b>BVAT-NU Test</b>	<b>English</b>	<b>French</b>	<b>Italian</b>
OVA	102 (Average)	114 (High Average)	70 (Borderline)
Picture Vocabulary	101 (Average)	88 (Low Average)	46 (Inferior)
Oral Vocabulary	99 (Average)	114 (High Average)	97 (Average)
Verbal Analogies	106 (Average)	134 (Very Superior)	97 (Average)
BVA1	121 (Superior)		
BVA2	110 (High Average)		
MVA	135 (Very Superior)		

The BVAT-NU results show that G7's highest OVA result was in French, followed by English and then Italian. G7's OVA L1 (English) standard score was *average*. She is currently being educated in English at an international school. G7's mother's first language is French. G7's father's first language is Italian. The difference between her OVA L1 (English) standard score and her BVA1 score is significantly different with her BVA1 standard score being *superior*. The difference between her

OVA L1 (English) standard score and her BVA2 score is eight points and is a *high average* score. Her multilingual score is significantly higher than any of her individual OVA language scores and slightly higher than her BVAT1 *superior* score.

- If G7's verbal abilities were evaluated using the BVAT-NU English test results only, her verbal abilities would be considered *average*.
- If G7's verbal abilities were evaluated using the BVAT-NU French test results only, her verbal abilities would be considered *High Average*.
- If G7's verbal abilities were evaluated using the BVAT-NU Italian test results only, her verbal abilities would be considered *Borderline*.
- If G7's verbal abilities were evaluated using the BVAT-NU to ascertain G7's bilingual verbal ability in English and French, her verbal abilities would be considered *superior*.
- If G7's verbal abilities were evaluated using the BVAT-NU to ascertain B12's bilingual verbal ability in English and Italian, her verbal abilities would be considered *High Average*.
- If G7's verbal abilities were evaluated using the BVAT-NU to ascertain G7's verbal ability in all his languages combined, her verbal abilities would be considered *very superior*.

### Child Participant G19

#### *G19 Parent's Interview 1 BVAT-NU Child Performance Prediction Before Results Shared Extract*

"For G19 it's French. I started with the mother tongue but on Wednesdays last year, but she needs to learn much more. She is not able to write in French which is a difficult language and I have to find a teacher otherwise if I wait too much, it's going to be even more difficult so, but she speaks perfect French. According to me she speaks like a kid who is going to school in France. French vocabulary, grammar. French is her strongest language and after that is English and then in Italian and we forget German." For Reading and writing "It's English. It's English for both of them."

#### *G19 Individual BVAT-NU Standard Score Test Results*

<b>BVAT-NU Test</b>	<b>English</b>	<b>French</b>	<b>Italian</b>
OVA	116 (High Average)	119 (High Average)	107 (Average)
Picture Vocabulary	123 (Superior)	123 (Superior)	100 (Average)
Oral Vocabulary	97 (Average)	103 (Average)	97 (Average)
Verbal Analogies	115 (High Average)	117 (High Average)	115 (High Average)
BVA1			135 (Very Superior)
BVA2			138 (Very Superior)
MVA			145 (Very Superior)

The BVAT-NU results show that G19's highest OVA result was in French, followed by English and then Italian. She performed equally well in French and English, followed by Italian. Her OVA L1 (English) standard score was a *high average* score in the language she is being schooled in at the international school. G19's mother's first language is French. G19 was educated at a school in French in France before joining the English-speaking international school. G19's father's first language is Italian. There are not significant differences between her OVA standard scores in the three languages. However, her BVA1 and BVA2 scores are significantly higher than her single language OVA scores. Her multilingual score is also seven points higher than her highest bilingual score but stays within the *very superior* category.

- If G19's verbal abilities were evaluated using the BVAT-NU English test results only, her verbal abilities would be considered *High Average*.
- If G19's verbal abilities were evaluated using the BVAT-NU French test results only, her verbal abilities would be considered *High Average*.
- If G19's verbal abilities were evaluated using the BVAT-NU Italian test results only, her verbal abilities would be considered *Average*.
- If G19's verbal abilities were evaluated using the BVAT-NU to ascertain G19's bilingual verbal ability in English and French, her verbal abilities would be considered *very superior*.
- If G19's verbal abilities were evaluated using the BVAT-NU to ascertain G19's bilingual verbal ability in English and Italian, her verbal abilities would be considered *very superior*.
- If G19's verbal abilities were evaluated using the BVAT-NU to ascertain G19's verbal ability in all her languages combined, her verbal abilities would be considered *very superior*.

### **Child Participant B13**

#### *B13 Parent's Interview 1 BVAT-NU Child Performance Prediction Before Results Shared Extract*

*"so his choice of languages would be English, French, Russian and when I ask him, because he tells me, that he has now started to realise there are more common words between English and French" ... "I think it will be pretty much as I say: English will be probably his strongest, but also I remember from me being a child you have a natural motivation to improve your language, language you speak to your friends, because with parents you don't know that word, they will correct you, the kids are mean to each other that probably how should I say this if you compare him the same coming from a multi-or bilingual family, he'll be definitely the same level and if you compare him to the 100% French, I would not be surprised, the ability to express himself a little bit would be behind, but in terms of understanding the way he finds out if any situation, I don't think, I'm not worried about this and the same will probably be for Russian."*

*B13 Individual BVAT-NU Standard Score Test Results*

<b>BVAT-NU Test</b>	<b>English</b>	<b>Russian</b>	<b>French</b>
OVA	106 (Average)	90 (Average)	117 (High Average)
Picture Vocabulary	117 (High Average)	91 (Average)	98 (Average)
Oral Vocabulary	93 (Average)	79 (Borderline)	117 (High Average)
Verbal Analogies	103 (Average)	106 (Average)	120 (Superior)
BVA1			116 (High Average)
BVA2			126 (Superior)
MVA			137 (Very Superior)

These BVAT-NU results show that B13's highest OVA result was in French, followed by English and then Russian. B13 achieved an OVA L1 (English) standard score that is classified as an *average* score. He is currently being educated in English at an international school. B13's father's first language is French. His mother's first language is Russian. His BVA2 score is significantly higher than his OVA scores. His multilingual score is eleven points higher than his highest bilingual score and is categorised as a *superior* score.

- If B13's verbal abilities were evaluated using the BVAT-NU English test results only, his verbal abilities would be considered *Average*.
- If B13's verbal abilities were evaluated using the BVAT-NU Russian test results only, his verbal abilities would be considered *Average*.
- If B13's verbal abilities were evaluated using the BVAT-NU French test results only, his verbal abilities would be considered *High Average*.
- If B13's verbal abilities were evaluated using the BVAT-NU to ascertain B13's bilingual verbal ability in English and Russian, his verbal abilities would be considered *High Average*.
- If B13's verbal abilities were evaluated using the BVAT-NU to ascertain B13's bilingual verbal ability in English and French, his verbal abilities would be considered *Superior*.
- If B13's verbal abilities were evaluated using the BVAT-NU to ascertain B13's verbal ability in all his languages combined, her verbal abilities would be considered *Very Superior*.

## Child Participant B16

### B16 Parent's Interview 1 BVAT-NU Child Performance Prediction Before Results Shared Extract

"Now English is easier for me, between my partner and school and even the children it's the dominant language, but I know I don't speak it well and I will never be able to express and nuance everything. ... "Nowadays it has changed a bit because he's more exposed to English and English became the dominant language." ... "Specifically I think English is his dominant language. I think then its French and then Spanish."

### B16 Individual BVAT-NU Standard Score Test Results

BVAT-NU Test	English	French	Spanish
OVA	113 (High Average)	125 (Superior)	86 (Low Average)
Picture Vocabulary	110 (High Average)	110 (High Average)	82 (Low Average)
Oral Vocabulary	110 (High Average)	124 (Superior)	90 (Average)
Verbal Analogies	107 (Average)	122 (Superior)	92 (Average)
BVA1			135 (Very Superior)
BVA2			120 (Superior)
MVA			137 (Very Superior)

The BVAT-NU results show that B16's highest OVA result was in French, followed by English and then Spanish. B16 scored an OVA *high average* score standard in the English version and that is also the language he is educated in at the international school. French is both his parents' first languages. B16 has always had a Spanish-speaking nanny.. His OVA standard score in L2 (French) is the same as his BVA2 score (English and Spanish). His bilingual French and English bilingual score is *very superior* compared to a *superior* level in French. His multilingual score is only two points higher than his highest BVA score and they are both in the *very superior* category.

- If B16's verbal abilities were evaluated using the BVAT-NU English test results only, his verbal abilities would be considered *High Average*.
- If B16's verbal abilities were evaluated using the BVAT-NU French test results only, his verbal abilities would be considered *Superior*.
- If B16's verbal abilities were evaluated using the BVAT-NU Spanish test results only, his verbal abilities would be considered *Low Average*.
- If B16's verbal abilities were evaluated using the BVAT-NU to ascertain B16's bilingual verbal ability in English and French, his verbal abilities would be considered *Very Superior*.

- If B16's verbal abilities were evaluated using the BVAT-NU to ascertain B16's bilingual verbal ability in English and Spanish, his verbal abilities would be considered *Superior*.
- If B16's verbal abilities were evaluated using the BVAT-NU to ascertain B16's verbal ability in all his languages combined, her verbal abilities would be considered *Very Superior*.

### Child Participant B6

#### B6 Parent's Interview 1 BVAT-NU Child Performance Prediction Before Results Shared Extract

"English, and after English, German and the weakest is the Spanish. "... "I think they are going to show English is his mother tongue so I don't have any worries about that. In German he is going to be able to understand more than what he can actually say actually reading and verbal. "... "he is very good he reads the same books like the children who go to the local school. We get the ones from the the grade 5 from the local schools, not enough, he always says "what's that new words that you use?" sometimes we use slang because we are native Spanish speakers"

#### B6 Individual BVAT-NU Standard Score Test Results

BVAT-NU Test	English	German	Spanish
OVA	119 (High Average)	108 (Average)	81 (Low Average)
Picture Vocabulary	108 (Average)	108 (Average)	74 (Borderline)
Oral Vocabulary	114 (High Average)	102 (Average)	79 (Borderline)
Verbal Analogies	118 (High Average)	104 (Average)	97 (Average)
BVA1			128 (Superior)
BVA2			123 (Superior)
MVA			133 (Very Superior)

The BVAT-NU results show that B6's highest OVA result was in English, followed by German and then Spanish. B6 achieved a *high average* standard score for English, the language he is being schooled in at the international school. German is his father's first language and Spanish is his mother's first language. His grandmother, who lives with the family in Switzerland, speaks Spanish. Both his BVA1 and BVA2 standard scores are higher than his English standard scores and are both classified as *superior* scores. B6's MVA standard score is only five points higher than his highest bilingual score but his multilingual score is higher and is a *very superior* score.

- If B6's verbal abilities were evaluated using the BVAT-NU English test results only, his verbal abilities would be considered *High Average*.
- If B6's verbal abilities were evaluated using the BVAT-NU German test results only, his verbal abilities would be considered *Average*.

- If B6’s verbal abilities were evaluated using the BVAT-NU Spanish test results only, his verbal abilities would be considered *Low Average*.
- If B6’s verbal abilities were evaluated using the BVAT-NU to ascertain B6’s bilingual verbal ability in English and German, his verbal abilities would be considered *Superior*.
- If B6’s verbal abilities were evaluated using the BVAT-NU to ascertain B6’s bilingual verbal ability in English and Spanish, his verbal abilities would be considered *Superior*.
- If B6’s verbal abilities were evaluated using the BVAT-NU to ascertain B6’s verbal ability in all his languages combined, her verbal abilities would be considered *Very Superior*.

### Child Participant B18

#### *B18 Parent’s Interview 1 BVAT-NU Child Performance Prediction Before Results Shared Extract*

*“I don’t know why English is eating everything, it’s amazing but I am not worried because I know it is just a matter of practising. It is not a deep thing so I think that maybe he has more vocabulary in French but now as he is speaking English a lot maybe English is coming. I think that his Portuguese is perfect. He doesn’t have any accent but he doesn’t speak like a kid from Brazil, he speaks like an adult because he learned with me so he never had this kind of kids talk never. He has the capacity of translation and sometimes he would use words like in French were really common for a five years old boy, but in Portuguese, it’s a really posh word to say and he would say for him naturally and people would say “Oh my goodness”.*

#### *B18 Individual BVAT-NU Standard Score Test Results*

<b>BVAT-NU Test</b>	<b>English</b>	<b>Portuguese</b>	<b>French</b>	<b>Spanish</b>
OVA	117 (High Average)	100 (Average)	117 (High Average)	103 (Average)
Picture Vocabulary	117 (High Average)	79 (Borderline)	113 (High Average)	88 (Low Average)
Oral Vocabulary	117 (High Average)	106 (Average)	106 (Average)	103 (Average)
Verbal Analogies	103 (Average)	110 (High Average)	116 (High Average)	112 (High Average)
BVA1				129 (Superior)
BVA2				134 (Very Superior)
BVA3 (L1+L4)				133 (Very Superior)
MVA				139 (Very Superior)

The BVAT-NU results show that B18’s highest OVA result was in English and French, followed by Spanish and then Portuguese. In general he has *high average* standard scores in English, the language he is being schooled in now and French, his previous school language. Portuguese is his mother’s first language and French is his father’s first language. B18 used to attend an international bilingual Spanish-English school in Spain so this is where he learned Spanish. B18’s BVA1 and BVA3 standard scores are *very superior* level. His BVA2 standard score is lower but still classified as

a *superior* level standard score. His MVA standard score is only five points higher than his highest BVA score - both these scores are *very superior*.

- If B18's verbal abilities were evaluated using the BVAT-NU English test results only, his verbal abilities would be considered *High Average*.
- If B18's verbal abilities were evaluated using the BVAT-NU Portuguese test results only, his verbal abilities would be considered *Average*.
- If B18's verbal abilities were evaluated using the BVAT-NU French test results only, his verbal abilities would be considered *High Average*.
- If B18's verbal abilities were evaluated using the BVAT-NU Spanish test results only, his verbal abilities would be considered *Average*.
- If B18's verbal abilities were evaluated using the BVAT-NU to ascertain B18's bilingual verbal ability in English and Portuguese, his verbal abilities would be considered *Superior*.
- If B18's verbal abilities were evaluated using the BVAT-NU to ascertain B18's bilingual verbal ability in English and French, his verbal abilities would be considered *Very Superior*.
- If B18's verbal abilities were evaluated using the BVAT-NU to ascertain B18's bilingual verbal ability in English and Spanish, his verbal abilities would be considered *Very Superior*.
- If B18's verbal abilities were evaluated using the BVAT-NU to ascertain B18's verbal ability in all his languages combined, her verbal abilities would be considered *Very Superior*.