The Ability to Become Bilingual

The Effects of Specific Language Impairment on Bilingualism

B.A. Essay
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Abstract

Children diagnosed with a specific language impairment are faced with difficulty in both language production and comprehension. When children with SLI are additionally placed in a bilingual environment, there is a common misconception that these children are unable to successfully learn two languages. This paper examines these two distinct fields, with the aim of understanding the relationship between them and how the associated challenges affect language acquisition. Thus, the first section of this paper examines the multidimensional field of bilingualism, highlighting how the various social and environmental factors influence both linguistic production and cognitive benefits. Additionally, the paper examines characteristics and causes of specific language impairment, as well as the external influences that may affect linguistic prospects. SLI ultimately affects daily communication, and is characterised by late speaking, difficulties with communication and ungrammatical vocabulary. It is usually diagnosed when linguistic difficulties are not accountable for by poor hearing, or other related deficits. Apparent similarities between bilingualism and SLI, such as small vocabulary and discrepancy between language understanding and production, can be confusing to parents and indicate that the elimination of one language may be the best option to ensure maximum language learning. It also appears that social and environmental factors are crucial in language potential for children with SLI, a notable similarity with bilingual language development. However, studies have shown that bilingual children with SLI are neither at an advantage nor a disadvantage in their linguistic development in comparison to their monolingual peers, although the type of input is a key concerning factor in the language learning environment of simultaneous and sequential language learner. For this reason, research has focused on the development of appropriate diagnostic measures, to ensure that bilingual learners are not confused with children with SLI and to ensure that research into the relationship between bilingualism and SLI can continue.
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1 Introduction

Globalism has caused an international shift in language use, resulting in a rapid increase of developing bilinguals, or individuals who can use dual languages in their daily lives. As a result, an increasing number of children are being brought up in bilingual or multilingual families, using different languages across various domains and purposes. Although bilingual speakers follow the same developmental paths as their monolingual peers, it is a common assumption that bilingual children display delayed language development (Lowry, n.d.). Although such beliefs have largely been eradicated and current research shows that children are not confused by multiple language exposure, there is still some uncertainty as to whether bilingualism slows down language learning and development (Hoff, et al., 2011). On the other hand, language impairments can be identified as general difficulties with everyday communication, such as expressing language and understanding what others are saying. In consideration to children with language impairments, bilingualism itself does not appear to negatively affect language development in either of the spoken languages, although the prevailing belief is otherwise. Such underlying uncertainties may be the foundation for the common confusion from parents and caregivers, when it comes to bringing up children with language impairments in a bilingual environment. Because of this, parents are often advised to speak in one language, eliminating any subsequent languages to prevent negative effects on language development (Sadlik, 2005). Despite this wide spread belief, a number of studies indicate that the diagnosis of language impairment does not negatively affect the ability to become bilingual, and therefore these children show equal prospects to normally developing children in becoming successive bilinguals.

To support this statement, it is important to gain insight into the fields of bilingualism and specific language impairment, and to compare the findings of these two distinct fields. To do this, I will examine these fields individually and go through the key factors, findings and current research. Thus, Chapter 2 will give an overview of bilingualism in children, examining the several types of bilinguals, and connections to important social and environmental factors. Additionally, this review will examine the connection between bilingualism and cognitive development, the consequent positive outcomes of bilingual language acquisition and the importance of maintaining the mother tongue. To conclude the findings, the chapter will outline current and important
research within the field and summarize the findings. Chapter 3 aims to give a similar overview of specific language impairments, considering the common characteristics of both productive and receptive language disorders, and how such language impairments connect to cognitive development. In addition, the section will examine the potential causes for SLI, important and current research, and key concepts and gaps within the field. To conclude the overall outcome, Chapter 4 compares the findings of previous chapters on bilingualism and specific language impairment, and summarizes common concepts that contribute to successive language learning for bilingual children with specific language impairment.
2 Bilingualism

When thinking about the topic of bilingualism, the common association is with a person that speaks two or more languages, and who is able to use each language effectively and appropriately on a daily basis. However, when reviewing the major papers in the diverse and complex field of bilingualism, it becomes clear that such definitions are simplistic and outdated and only give a brief insight into a small group of bilingual speakers. Bilingual competence is not easily measurable and various overlapping social and environmental factors result in multidimensional abilities that are difficult to assert in a simple categorization (Baker, 2011). In the quest to understanding bilingualism, experts have looked at underlying factors and key concepts, and as a result, have defined several types of bilingual speakers.

For this review, I will focus on the linguistic acquisition of normally developing children and consider the several types of bilingualism and how these connect to cognitive development in bilingual children. By doing so, I hope to set the scene for further research, and evaluate if adding a second language slows down or disturbs language development. To strengthen the findings, the following section will also consider the importance of maintaining the mother tongue, and how identity is strongly linked to language. To summarize, the chapter will briefly review the most valid and important research within the field of bilingualism, and thus highlight how the approach towards bilingual acquisition has changed in recent years, and encouraged heightened interest into this multidimensional field.

2.1 Types of Bilingualism

Defining bilingualism is not a simple task, and for this reason, opinion on who can be categorized as a bilingual speaker varies massively and is largely dependent on different perspectives. According to Bialystok (2001), “views vary from Bloomfield’s insistence that a bilingual has full fluency in two languages to the more pragmatic assertion by Grosjeran, that a bilingual is someone who can function in each language according to given needs” (p.4). As these definitions suggest, the term is extensive, and therefore research into the field has resulted in various definitions, that also serve as indicators of the circumstances surrounding the bilingual language acquisition.

Children can become bilingual for many reasons, such as unavoidable circumstances due to parent’s different nationalities, the norm in society, or simply by a parent’s
choice of adding a second language. This is referred to as circumstantial or elective bilingualism and can affect whether the child becomes a dominant bilingual, preferring one language over the other, or a balanced bilingual, using the languages equally. For many, the definition of a balanced bilingual, or a person that is equally fluent in both languages across many domains and situations, is characteristic of bilingualism. Although it is a common assumption that children who are brought up with two languages become balanced bilinguals, it is worth pointing out that such a competence is unusual and it is rare to find someone with equal competence across all aspect of their lives. According to Baker (2011), most people use different languages for different purposes, and in different situations, although the balance may exist to some extent. A child who speaks one language at home with the family and another one at school may therefore have different linguistic skills within each context. As a result, children may develop different attitudes towards the languages, as well as different proficiencies in each language.

According to Lambert (1962), the various types of bilingual speakers are influenced by the sociocultural context in which the bilingual experience occurs (Hamers and Blanc, 2000). Consequently, bilingual language acquisition is generally divided into two main types, simultaneous and sequential bilingualism. A simultaneous bilingual does exactly as the term suggests, and learns two or more languages alongside each other, usually from birth or before three years old. These children may have parents from different linguistic backgrounds, and be exposed to the one parent, one language input. Early bilinguals like these, go through the same developmental stages as monolingual children and can differentiate between the two languages (Lowry, n.d.). It can therefore be appreciated that such linguistic exposure has positive benefits for the speaker, and can result in what Cummins refers to as the additive form of bilingualism, where both spoken languages and cultures have positive influences on the child’s development (Hamers and Blanc, 2000). On the contrary, late bilinguals, or sequential language learners, learn L2 after L1 is successfully established, or generally after the age of three years old. In this case, the L2 language acquisition may be due to relocation to a different country, or due to the introduction of a community language when starting school. Although such input does not negatively affect cognitive development, these children may often react by going through a silent period, before slowly starting to speak the language using short and imitated sentences. (Lowry, n.d.). However, in such
situations, there may be a danger of subtractive bilingualism, where the languages compete against each other (Hamers and Blanc, 2000). Such social influences may affect the linguistic ability of the child, and affect how productive the linguistic output becomes.

Bialystok differentiates between a productive and a receptive bilingual, and how the two differ depending on linguistic exposure. She states how a productive bilingual can produce two languages to a degree of competence, whilst a receptive bilingual is someone who can understand language but fails to produce it (Bialystok, 2001). This is also sometimes referred to as passive bilingualism, although the term can be misleading, as this fails to give the correct insight into the complex process needed for language understanding for the receptive speaker (Rosenback, 2016). Similarly, the term ´semilingualism´ has been used as a derogatory term for a bilingual group that is not considered to have gained sufficient knowledge in either one of their spoken languages. According to Baker (2011), there are some problems with the term, such as the negative label and belittling overtone. He furthermore points out that rather than highlighting a deficit in language development, there is the need to emphasize, that given suitable conditions, everyone can develop their language to high competence and thus become successive bilinguals. This indicates that linguistic abilities are to some extent subject to the environment in which they are placed, and thus a child discouraged from speaking due to inability, may withdraw from speaking in the weaker language and go amiss the many benefits bilingualism is associated with.

2.2 Cognitive development in Bilingual Children

According to the American speech and hearing association, there are many benefits and advantages to being bilingual, such as easy acquisition of new words and information, problem solving, good listening skills and connecting with others (The Advantages of Being Bilingual, 2017). Views like this are contrary to early research that generally viewed bilingualism as a disadvantage and indicated developmental delay in bilingual children, in comparison to their monolingual peers. One such claim was stated by Macnamara (1966) who performed an extensive bilingual review, outlining 77 studies between the years of 1918-1962, and concluded that bilingual children had a weaker grasp on language, and consequent language deficits (Bialystok, 2001). However, a turning point came following the Peal and Lambert study, which aimed to point out the relationship between bilingualism and intelligence (Peal & Lambert,
The study displayed that bilingualism was not detrimental to cognitive development and consequently, such ideas have largely been eradicated. Thus, current research shows that bilingual and monolingual children seem to develop in similar ways, with many suggestions that bilingual children are cognitively advantaged.

As suggested by Hamers and Blanc (2000), bilingual children must develop perceptual skills that allow them to distinguish between the two languages and learn to discriminate the speech features which are relevant to their environment. These children also need to learn specific processing skills that help them master the language over a short period of time, and consequently they have a better metalinguistic awareness, such as the capacity to dissociate word from object, and a greater flexibility in matching form and function (Hamers and Blanc, 2000). Advantages like these have also been noted by Bialystok, who has referred to studies that have shown that bilingual speakers often outperform their monolingual peers on tasks involving executive control (Bialystok, 2011). Executive functions involve cognitive skills, important for functions like inhibition, switching attention and working memory, or as Bialystok, Craik & Luk (2012) point out: "this pattern sounds like “mental flexibility”, the ability to adapt to ongoing changes and process information efficiently and adaptively”. Such functions are clearly beneficial and give bilingual children a valuable advantage, and suggest that bilingualism is an asset that must be fostered.

Despite this, bilingual children are sometimes labelled as late talkers and there is a common misunderstanding that bilingualism induces delayed onset of speaking. Bialystok et al (2012) point out that there is a large body of research that suggests that the verbal skills in each language for bilingual speakers are generally weaker than for monolingual speakers of the same language. However, such assumptions are generally based on the linguistic input of one language, and do not give a clear result of language development. Similar findings can be found in research conducted by Erica Hoff, where the language development between monolingual and bilingual speakers was compared, and showed that the monolingual speakers were significantly more advanced on vocabulary and grammar than their bilingual peers, but where comparable on the measure of the overall vocabulary (Hoff, et al., 2011). This suggests that bilingual children do not have any language delays associated with bilingualism, although the developmental curves may be different and vocabulary in each one of the spoken languages may appear to be smaller. Furthermore, it is important to point out that
measures of vocabulary and grammar are correlated to the relative amount of language input and thus the one parent, one language method, may not always be the best approach. A child that is exposed to one language from each one of its parents, may therefore still develop one stronger language, if exposure in the other one is limited.

Thus, it is worth noting that bilingual factors and benefits are associated with a set of influential and correlated factors. These can be social factors such as education, amount of literacy input in the home and community and language ability in the dominant language. Consequently, cognitive development is affected by these factors and individual circumstances will affect how children develop linguistically and cognitively. Therefore, it may be difficult to assert if bilingualism alone affects cognitive development and according to Bialystok (2001) “bilingualism must be defined precisely and separated from the myriad of social conditions with which it is correlated”. For this reason, it can be concluded that regarding social conditions, bilingual abilities can be presented along a continuum of cognitive and linguistic skills. Thus, bilingual children that are brought up with unfavourable social conditions, such as lack of parental interest in linguistic input, may struggle with language development in either L1 or L2, and effectively have poor academic outcomes and be influenced by a subtractive form of bilingualism. Therefore, it is important that parents are aware of the importance of linguistic input and provide their children with an active and a natural linguistic environment in their mother tongue, to optimize the benefits of bilingualism.

2.2.1 Importance of Mother Tongue and Identity

For many years, the prevailing belief regarding multilingualism has been that eliminating a minority language was the best way to ensure success in the dominant language. Professionals often believed that by speaking to children in multiple languages, they would become confused and unable to learn either one of the spoken languages. Although this myth has mostly been eliminated, confusion may still arise amongst parents and caregivers, who are unsure whether the inclusion of another language will hinder development. However, research confirms that due to the importance of the mother tongue, the decision to eliminate a language may have negatively adverse effects, as Sadlik (2005) points out: “the understandings of the social organization of everyday life, ideologies, moral values, beliefs, identities, norms and expectations of a certain cultural community are largely acquired through language”. Similarly, Bialystok (2001) points out how “the language we speak is instrumental in
forming our identity, and that being required to speak a language that is not completely
natural may interfere with the child’s construction of self” (p. 5). For this reason, there
are several problems associated with parents not speaking to their children in their
native language, and children who do not learn to speak their mother tongue may miss
out on important connections. This could include disruption of the natural interaction
between parents and children, losing out on cultural connections and missing out on
genuine relationships with family members (Lowry, n.d.). Speech and language
pathologist, Ana Paula G. Mumy (2016), supports this notion by pointing out that
parents are best able to provide their children with quality language input in their first
and dominant language. She states that whilst a parent may be able to learn the
community language, parents’ first language is always the one where the parent is the
most fluent with vocabulary, grammar and ease of communication. Furthermore, Mumy
points out how research has suggested that children with a strong first language are
better equipped to learn a second language, and that a child who has not established a
firm first language foundation, may struggle to learn the second language (Mumy,
2016). As language is the primary form of communication for the majority of the
population, it can be appreciated that such disruption in natural communication, can
have serious adverse effects, and thus children and parents can suffer emotional and
phycological difficulties as a consequence.

It is clear, that language is closely connected to identity and the construction of
the self and therefore the decision to eliminate the mother tongue should not be taken
lightly. The notion has been acknowledged for a long time and gained considerable
interest with the Sapir-Whorf theory, that suggests that language shapes thought. This is
generally divided into the strong hypothesis, suggesting that thoughts are bound by
language, and the weak hypothesis, suggesting that language shapes thinking and
behaviour (Livingstone, 2014). Although the theory has been much debated since
originally suggested, it does set the foundations for linking language to thought, identity
and human interaction. According to recent research done by the Pew Research Centre,
language was considered to be a key factor to national identity, and the majority in each
of the 14 countries that took part, considered it important to speak the native language
to be considered a member of the nation (Mitchell, 2017). Thus, it can be appreciated
that language, communication and identity have gained considerable interest regarding
bilingualism, and for this reason bilingual research is vital for continuous and deepened understanding of this complex field.

2.3 Theoretical turning point

The shift towards seeing bilingualism as an asset rather than a hindrance, encouraged numerous studies in the latter part of the 20th century, towards the many benefits and complexities surrounding the subject. The first reordered study of bilingual development was done by Ronjat in 1913, a psychologist who completed a study on his son’s linguistic development. The results suggested that his bilingual exposure had no negative effect on his development and that the phonology, grammar and lexis of both languages seemed to develop parallel to each other. His study suggested that bilingualism would not slow down cognitive development, but rather foster a more abstract conception of languages (Hamers and Blanc, 2000). Despite this, the common conception was the opposite, and thus early studies focused on what was lacking rather than the additive benefits of bilingualism, with most of the literature prior to 1950 concluding that bilingualism was a hindrance to development. The most groundbreaking study to shift general attitudes was the Peal and Lambert study, conducted in 1962, with the aim to highlight the relationship between bilingualism and intelligence. The study compared English and French bilingual children with their monolingual peers and indicated that bilingual children seemed to have advantages over their monolingual peers. The careful methodological design was a turning point in bilingual research, and set the scene for further research into the advantages of bilingualism (Peal & Lambert, 1962). Lambert also suggested various social contexts as indicative of distinct types of bilingualism, and thus showed how linguistic and cognitive advantages are a result of the wider social context (Hamers and Blanc, 2000; Peal & Lambert, 1962).

Furthermore, Cummins (1979) introduced his developmental interdependence hypothesis and minimal threshold of linguistic competence hypothesis, to try to account for the conflicts in bilingual and cognitive research. The developmental interdependence hypothesis suggests that competence in the second language is dependent on competence in the mother tongue. Additionally, the minimal threshold hypothesis explains how a minimal competence threshold must be reached in the first language to avoid cognitive deficits (Cummins, 1979). In 1978, Volterra and Taeschner continued important bilingual research with a proposal of a three-stage model, to explain the process of storing two distinct languages in children’s minds. The research explained,
how a child starts with one lexical system for both languages, followed by a second stage and the early development of two distinct lexical systems and finally the third stage, where vocabulary and syntactic rules are disentangled (Bialystok, 2011). Because of research like this, the field of bilingualism has gained respect, and today, the addition of a second language is seen as a valuable addition for most people.

In current times, the key concepts within the field have been to highlight cognitive and linguistic advantages, and one of the leading researchers in the field is Ellen Bialystok. She has published numerous research papers, studies and books, such as ‘Bilingualism in Development – Language, Literacy and Cognition’, that has been a key reference for this paper. The book is largely focused on linguistic research, and gives an extensive overview of bilingual children, the various types, and an insight into cognitive and executive control advantages of bilingual children (Bialystok, 2001). Additionally, De Houwer has undertaken important research into the importance of language input, and consequently considered the language behaviour of children and their families. One such research considered the language behaviour of nearly 2000 Dutch bilingual or multilingual families. Despite presence of both languages in these families, the research concluded that nearly a quarter of the families had children, unable to speak the minority language. This furthermore indicated that those families that used the Grammont approach of one parent, one language, only had a 74% success rate in raising bilingual children (Grosjeran, 2014). Such results confirm that bilingualism is a multidimensional field, where language acquisition is largely affected by social circumstances and parental input.

2.4 Summary

So far, it seems clear that views regarding bilingualism have been variable throughout the years, and consequently experts have come up with many theories regarding the field. As mentioned earlier in this chapter, one of the key complications within this area has been with the definition of a bilingual speaker, resulting in experts suggesting various definitions to describe different abilities. These different types are largely shaped by external circumstances and social factors, and therefore, categorization of who is bilingual is not simple and largely down to opinion. Additionally, the chapter has outlined the several types of bilinguals, and clarified how these distinct types can affect language acquisition, ability and determine whether the bilingualism offers additive or subtractive benefits for the speaker. Furthermore, the
chapter outlined the many cognitive benefits that are associated with bilingualism, such as enhanced executive control and metalinguistic awareness, and explained how such advantages are often shadowed by the negative attitudes towards bilingualism. Therefore, bilingual children are often labelled as late talkers, although research has shown that these children develop language in the same ways as monolingual children. Additionally, the chapter emphasized the importance of maintaining the mother tongue, the relationship of linguistic input and output, and how this is directly related to bilingual success. The last section emphasized the findings, by discussing current research and significant changes in the latter part of the 20th century. Whilst evaluating such research is important, it is clear that the majority of bilingual research has been aimed at normally developing individuals, suggesting that there are gaps within the field in connection with bilingual children that are faced with additional language complications.
3 Language Impairments

For most children, language learning comes naturally, and children can learn to speak and express themselves to some extent, even if the language input is limited or of poor quality. However, for some children, language learning may be delayed or unsuccessful and as a result, they may be diagnosed with some type of speech and language disorder. Speech and language disorders are relatively common and can affect people of all ages, cultures and social groups. It affects about 5-8% of preschool children and can consequently be established as one of the more common disabilities found in children (Prelock, Hutchins, & Glascoe, 2008). Although there are a multitude of different speech and language disorders that can affect children’s language development, the following discussion will be limited to specific language impairment (SLI) in children, with the aim of giving an overview of this specific field.

To gain a broader understanding of this area of study, it is important to identify what characterizes specific language disorders, and how they may be presented. Therefore, this section will discuss SLI in children, the common characteristics and the connection between cognitive development and language acquisition. This chapter will also consider probable causes for the disorder, and review previous and current research, important findings and scope for further study.

3.1 Specific Language Disorder and Cognitive development

When speech and language disorders are not accounted for by hearing loss or any other developmental delay, it is often referred to as Specific Language Impairment. These account for about 7-8% of all language disorders in preschool children, and can be recognised by various symptoms, depending on the severity of the impairment. It usually becomes apparent when a child has difficulty with talking, classified as a productive language disorder, but can also affect understanding, classified as a receptive language disorder (Bishop, 2006). Consequently, children diagnosed with language disorders often struggle with everyday communication, such as understanding what others are saying and expressing their thoughts effectively. Early warning signs are late talking and failure to produce words before they are two years old, and thus falling behind their developmental milestones in comparison to normally developing children. (Preschool language disorders, 2017). Around 3-4 years of age, children with SLI may still have limited and ungrammatical vocabulary and commonly show delayed production of speech sounds and grammatical structures. This is much later than in
normally developing children, as they often start developing word utterances at around 12 months old, stringing words together at around 2 years old, and talking in complex sentences by 4 years old (Ervin, 2001; Whitehouse, 2012). Although such delay may seem negligible at such an early age, it can be appreciated that linguistic simplicity like this may affect relationships, especially with other children.

A child with a productive language disorder can have difficulty learning words and using them in context, and for this reason with sharing thought and ideas effectively (Bishop, 2006). The language disorder may also affect development of grammar, vocabulary, and discourse skills, and there is evidence that these children struggle to learn certain morphemes. When these children eventually start speaking, typical errors are with dropping the end of present tense verbs, dropping past tense, and missing out the usual be and do verbs (Specific Language Impairment, 2017; Preschool language disorders, 2017). Furthermore, children with SLI often speak using simplified grammar, such as omitting past tense endings and auxiliary verbs, past the usual age of when such grammatical features are usually acquired (Bishop, 2006). For this reason, these children often have trouble asking questions, naming objects, using gestures and stringing words together in a sentence. Children with specific language disorders can also have a receptive language disorder, and may have difficulties with understanding what others are saying, such as directions and instructions, understanding gestures, answering questions and identifying objects and pictures (Bishop, 2006; Preschool language disorders, 2017). It can be appreciated that such lacking in language ability can wrongly suggest general developmental delays, and affect daily communication and relationships with others, resulting in negative social outcomes.

As mentioned previously in this chapter, children that have language disorders that cannot be accounted for by any other cognitive developmental delays, are often diagnosed with specific language disorder. With the commons symptoms of SLI in mind, it can be appreciated that the simplified and delayed speech can wrongly suggest developmental delays. However, the many and complicated symptoms of the disorder are not caused by any intellectual, sensory, neurological, or emotional deficits, although the language ability of these children may be significantly below age level IQ. Their language development is often seen as scoring in the lowest 10 % in standardized tests of expressive and receptive language, and thus these children are faced with serious problems with daily communication. Interestingly, and contrary to the appearance
suggested by their language ability, children with SLI can be exceptionally bright and talented and have high nonverbal IQ (Ervin, 2001). However, the impairment can have long term affects and according to Bishop, specific language impairments can persist into adulthood and consequently affect academic performance. A recent study showed that 70% of children with SLI that were tested at the age of 5 years old, still had impaired language performance at the age 18-20 years old (Ervin, 2001; Bishop, 2006). This would suggest that although these children do not show any other related developmental deficits, their linguistic abilities can hinder them, and affect both social and academic performance.

3.2 Underlying Causes of Specific Language Impairment

As has already been mentioned in this chapter, specific language disorders are generally not accompanied by cognitive deficits other than the language impairment. Consequently, it can be difficult to understand and appreciate underlying causes and reasons behind the delay. For many years, attitude towards the disorder was tainted by prejudice, and many assumed that it was a result of poor parenting or subtle brain damage. Today it is known that this is not the case, although it is clear, that social and environmental factors influence linguistic ability and development. As SLI is a heterogeneous disorder and can be presented along a continuum of severities and varieties, it can be difficult to diagnose and identify the exact causes and underlying reasons. However, some research has shown that children diagnosed with the impairment have a weak verbal and phonological short term memory (Bishop, 2006), strongly suggesting an important contributing factor in connection to the language difficulty.

Furthermore, studies have shown that there may be a strong genetic link associated with the disorder (Bishop, 2006) and consequently those affected are more likely than others to have some family members with language delay, with around 50-70 % of diagnosed children having some family members with the disorder (Specific Language Impairment, 2017). This genetic connection to SLI was at one point seen as the ideal opportunity to discover if there was a gene for language that was faulty in children with SLI. However, further research did not confirm this, and today SLI is understood as being a complex genetic disorder, that can vary in severity both in connection with genetic factors, and social and environmental factors. However, such genetic research has identified possible chromosomes that may be affected, such as the link to
chromosome 16, a gene associated with poor phonological short term memory. Identifying such genetic links to the disorder has also raised hopes that may help identify distinct subgroups with different underlying causes, to give a more specific insight into the reasons for the impairment. However, it seems that most cases of SLI are linked with various underlying, and perhaps minor deficits, making such identification difficult (Bishop, 2006). Therefore, it can be difficult to make a distinction between a delay caused by the language disorder, and language difficulties influenced by social factors. To gain a deeper understanding into SLI and to clarify any misunderstanding or myths associated with the impairment, continued research into the field has been a vital part in understanding the disorder.

3.3 SLI Research

Children with Specific Language Impairment have been of interest to clinicians and researchers for about 150 years, and previously the disorder was referred to as developmental aphasia and later developmental dysphasia. Following research and general understanding into the underlying causes, the disorder has been renamed and is currently and mostly referred to as Specific Language Disorder, although some prefer to refer to it as primary language disorder (Ervin, 2001). In the latter part of the 20th century, SLI was still widely misunderstood, and was commonly and mistakenly associated with several social issues, such as bad parenting and subtle brain damage. Today it is known that this is not the case, and current research has indicated that the impairment is connected to genetic factors, and thus the key concepts within the field have been towards understanding the underlying causes of the disorder.

Gopnic and Graco conducted an extensive study on the linguistic properties of SLI, following suggestions that at least some cases of SLI can be contributed to a genetic abnormality. The focus of the study was towards a three-generation family, where over half of the family members where diagnosed with SLI. The study included 20 of the family members, 13 of whom were diagnosed with SLI, ranging in ages 2-74 years and shared a severe grammatical and phonological problem, and 7 normally developing individuals. The study concluded that it was plausible to conclude that a single dominant gene could possibly be responsible for the mechanisms that affect the ability to construct paradigms that constitute morphology. (Gopnik & Crago, 1991). As a result, research has focused on genetic links, and the prominent suggestions are that SLI is a complex genetic disorder that can affect several possible genes (Bishop, 2006). One
of the leading researchers within the field is Dorothy Bishop, who is known for her extensive work regarding children’s communication problems, with specific focus on psychological, linguistic, neurological and genetical aspects (Dorothy Bishop, 2017). Bishop has provided a dearth of research into the field, such as her paper: *What Causes Specific Language Impairment in Children?* that provides an extensive overview of the underlying factors of SLI, and has been a valuable reference for this paper. Furthermore, Bishop has conducted twin studies, where identical twins with SLI were compared to non-identical twins with SLI, concluding that the identical twins shared more features of the disorder than were seen in the non-identical twins. Such findings strongly suggest that although SLI is influenced by social factors, these are not deciding aspects in whether children have the disorder, but rather an influential factor into linguistic prospects for these children.

Other research includes the phonological short term memory (STM) studies, following a theory “that attributes SLI to impairment in a system that is specialised for holding verbal material in memory for short periods of time” (Bishop, 2006). Such tests are often performed by asking children to repeat meaningless sequences of syllables, with an indication that children with SLI often perform badly at this task. (Bishop, 2006). Archibald and Gathercole conducted such a study, following the indication that children with SLI often perform poorly on short-term memory tasks, such as non-word repetition, digit recall and verbal working memory tasks such as storing and processing information. The aim of the study was to examine to what extent such verbal memory deficits would appear in children with SLI and thus examined 20 children between the ages of 7-11 years, who completed a comprehensive battery of short-term and working memory tasks, as well as two phonological awareness tasks. The study concluded that these children had severe deficits in verbal short term memory and working memory, and thus these findings can possibly explain some of the language learning difficulties frequently experienced by these children (Archibald & Gathercole, 2006). Studies like these suggest that SLI is strongly influenced by genetics and contributing factors such as phonological short term memory are underlying and inherent causes, that are likely to influence linguistic abilities in any given language.

### 3.4 Summary

It is clear from the above account that specific language disorders can present themselves in many ways, although common characteristics include difficulties with
both producing and understanding language, and can therefore affect general communication. SLI can affect children of all ages, although it usually becomes apparent around the age of common language milestones, or before 3 years old. Consequently, the general difficulties with the production of language and communication can wrongly suggest deficits with development and intelligence, but as has been stated in the previous chapter, SLI is not directly related or associated with other cognitive deficits. However, severe cases of SLI and the associated problems, can consequently affect academic and social performance, due to poor communication abilities. Whilst the disorder has faced much prejudice, attitudes have changed over recent years and SLI has gained more understanding. Thus, previous assumptions of the impairment being related to unfavourable social circumstances has been eradicated, with current attitudes suggesting a strong genetic link, although social factors are likely to influence outcomes. With the symptoms of SLI in mind, and the lack of extensive research into SLI language acquisition, it can be appreciated why some parents and practitioners may question the validity of adding extra complications, such as introducing an additional language into the linguistic environment of these children.
4 Bilingualism for Children with Speech Impairments

The above chapters have given an overview of two distinct fields, bilingualism and specific language impairment in children. It has been shown that due to globalisation, bilingualism is an increasing factor of modern society, and it could be said that monolingual speakers are almost becoming the exception. Additionally, as has been clarified, approximately 7-8% of all language disorders are specific language disorders and consequently it is believed that SLI affect a similar number of monolingual and bilingual children (Kohnert, 2010). For this reason, it can be asserted that a group of children diagnosed with specific language impairment, are also faced with the complication of having to acquire two or more languages, for efficient communication with family members and the community. Therefore, the following chapter will examine the relationship between bilingualism and SLI and consider language acquisition for these children. The section will also consider simultaneous and sequential language acquisition for children with SLI, and examine if these types are likely to produce similar outcomes. To conclude the findings, this section will consider current and relevant research and findings within these combined topics.

4.1 Relationship between Bilingualism and SLI

Understanding the impact of bilingualism on children diagnosed with SLI, and the consequent language development, is the key concept when examining whether these children can become successful bilingual speakers. Although these two distinct fields are not related, external circumstances can result in situations where children with SLI are brought up in a bilingual environment. Upon analysis of the previous discussion, it seems plausible to suggest that many of the characteristics of bilingualism and SLI are conveyed in similar ways. Therefore, the apparent late onset of speaking and small vocabulary size in bilingual children could easily be confused with similar characteristics in SLI. Other overlapping and similar factors include the observable discrepancy between input and output, that can sometimes be seen in both groups and can result in receptive language ability. This type of a receptive bilingual was identified in the chapter on bilingualism, and described as someone who can understand language, but fails to produce it (Bialystok, 2001). Although bilinguals do not always show complete discrepancy between the receptive and productive language, most speakers use different languages for different purposes and may therefore seem to have limited vocabulary in one of the languages. Such characteristics show a distinct similarity to
SLI speakers, who often have difficulties with sharing thoughts and ideas effectively (Bishop, 2006). Thus, the several types of bilingual speakers and the various severity seen in SLI, can present many overlapping factors that could easily cause confusion, and raise the question of whether these subjects have a negative impact on each other.

The section on bilingualism highlighted the many benefits and advantages of being bilingual, such as increased metalinguistic awareness, including greater capacity to dissociate word from object and matching form and function (Hamers & Blanc, 2000). Other benefits include advantages with executive control (Bialystok, 2011) which is known to affect functions such as attention and working memory (Bialystok et al, 2012). When applying these functions to children with SLI, it is noteworthy to remember that their linguistic deficits are not associated with other development disorders, and therefore these children can be intelligent in other non-linguistic areas of their development (Ervin, 2001). This raises the question of whether the bilingual benefits can also be seen in bilingual children that have been diagnosed with SLI. Consequently, it seems plausible to suggest that such metalinguistic and executive control benefits could be a good counter measure towards the linguistic impairments of children with SLI, and thus be a positive addition to their linguistic environment. Such questions could also be applied to other genetic factors that are believed to influence SLI, such as the link to phonological short term memory that has been observed in children with SLI (Archibald & Gathercole, 2006), and is thought to be a contributing factor in connection to the language and communication problems. Although such ideas are yet to be fully examined, research to date does indicate that bilingualism does not appear to pose any threats to successful language acquisition in children with SLI.

One such study was completed by Paradis, Crago and Genesee (2003) and compared French-English bilingual children with SLI, with their monolingual peers. All participants were matching in age, and came from a mixture of French and English linguistic backgrounds. The study concluded that the bilingual children with SLI showed similar abilities in the domain of grammatical morphology as their monolingual peers, suggesting that bilingualism is not a negative influence on children with SLI. Such research is valuable for the field, and indicates that when possible, children should be given the opportunity to learn languages that connect to their identity and heritage. As mentioned earlier in this paper, such social and environmental factors influence the linguistic outcomes of both SLI and bilingual speakers, and how different types of
bilinguals may result on the external sociocultural context (Hamers and Blanc, 2000; Lambert, 1962). Therefore, it is important to consider how language acquisition works for bilingual children with SLI, and how the different types of simultaneous and sequential bilingualism influences language acquisition.

4.2 SLI and language acquisition of L1 and L2

As has been stated earlier in this paper, bilingual language acquisition appears to be similar to monolingual language acquisition (Hamers and Blanc, 2000), suggesting that normally developing individuals should not face difficulties with the addition of a second language. However, whilst there are several types of bilingual speakers, there are ultimately two ways that children become bilingual, simultaneously and sequentially, and the language learning curves for these two groups can be variable. Thus, a simultaneous learner has language input from both languages before the age of three years old and learns them alongside each other, whilst a sequential learner learns L1 before Learning L2, or generally after the age of three years old. So far, this paper has supported the notion that bilingual children with SLI are not faced with any additional difficulties in their two languages, in comparison to their monolingual peers with SLI (Lowry, n.d). Furthermore, research suggests that simultaneous bilingual children with SLI are likely to make the same type of errors as their monolingual peers with SLI, supporting this claim even further (Kay-Raining Bird, 2010). This is in line with Cummins positive connection between simultaneous language acquisition and the additive form of bilingualism, where both languages and cultures bring positive elements to the child’s development (Hamers and Blanc, 2000). Although such information is valuable, it highlights the possibility that much of the overview has been in consideration to bilingual SLI speakers that have acquired both of their languages simultaneously. For this reason, it is understandable that parents that wish to introduce their children to a bilingual environment may question whether it is better for a child with SLI to fully learn a language before establishing another one.

Sequential bilinguals can be divided into two subgroups, those that have L1 as the minority language and learn L2 at school or in the community, and those that have L1 as the majority language and learn L2 though immersion programs at school (Genesee et al., 2004; Paradis, 2007), also known as elective bilingualism. The first group are typically immigrant children, where the bilingual environment frequently comes from necessity rather than being a conscious choice. Consequently, caregivers and
professionals may question whether these children can be expected to show the same acquisition patterns as SLI monolinguals that already speak that language. According to Paradis (2007), sequential learners with SLI have been reported as achieving similar use of tense marking morphemes as monolingual children with SLI, after 3 years of exposure to L2. Lowry (n.d) concludes similar findings, pointing out that most studies have suggested that the diagnosis of SLI does not cause additional delays for sequential language learners, and suggests that after sufficient exposure to L2, these learners catch up with their monolingual peers with SLI (Lowry, n.d). The second group of sequential language learners are those that have L1 as a majority language and are introduced to L2 as an additional language, such as through immersion programs at school. Such language immersion provides limited exposure to L2, and consequently raises the question of whether this is sufficient language contact for children with SLI. Contrary to the earlier group, it has been suggested that these children acquire language very slowly, and are possibly outperformed by children that have L1 as a minority language and learn L2 at school (Paradis, 2007). This also relates to the connection between sequential bilingualism and subtractive bilingualism, where the languages can compete against each other and even typically developing children may go through a silent period, before speaking the language (Hamers and Blanc, 2000). This would suggest that whilst bilingual learners diagnosed with SLI, appear to be able to become bilingual speakers even when L2 is learned after L1, careful consideration needs to be applied when adding L2 as an additional language, as exposure may not be sufficient for children with SLI.

Acknowledging the importance of language exposure is vital in consideration to successful language acquisition in bilingual children with SLI. It has been mentioned several times throughout this paper that whilst social and environmental factors are not detrimental in classifying bilingualism and specific language impairment, it plays a crucial role in the linguistic outcomes for these children. Therefore, it is worth noting, that although children with SLI do not seem to be at any additional risk when learning more than one language, the amount of input plays a crucial role. As mentioned earlier in this paper, a child with a receptive language disorder may have difficulties with understanding what others are saying, such as following directions and instruction (Preschool language disorders, 2017). Such communication delays will come across all languages, but the lack of feedback and response may be confused with lack of
language knowledge, and as a result, parents or caregivers may reduce communication in that language, thus creating a vicious cycle and increasing the language difficulties rather than reducing them.

4.3 Research

The increased numbers of children with SLI being brought up in bilingual environment, has motivated a new field of research, the study of bilingual children with Specific Language Impairment (BISLI) (Armon-Lotem, 2011). Although these distinct subjects of bilingualism and SLI have gained considerable interest as separate subjects, the study of BISLI as a unified topic is relatively new, and therefore research is still limited. However, the key concepts in BISLI, concern the influences SLI has on bilingual language acquisition and the overlapping variables within the field. Such variables can cause difficulties in BISLI research, as defining who is bilingual and who has SLI and the lack of distinction between these categories makes accurate research difficult.

Kathryn Kohnert has published several papers on bilingual language acquisition and speech impairments. In 2009, Kohnert, Windsor and Ebert (2009), reviewed empirical findings on children with SLI and on typically developing sequential bilinguals. The paper identifies how typically developing L2 learners may perform below expected levels in comparison to monolinguals and therefore represent children with SLI in some ways. They furthermore highlighted the frequency of L2 learners being over or underdiagnosed with SLI, and the absence of suitable diagnostic tools. Subsequently, Kohnert, Windsor and Ebert designed a research project, called “Common Ground” with the aim of identifying possible fault lines between children with SLI and typical individuals learning L1 and L2. The study compared 100 children, 22 typically developing sequential bilinguals, 20 monolingual speakers with SLI and 50 typically developing monolingual speakers. The children spoke Spanish and English, lived in the USA and ranged between ages 8-13 years old. The aim of the study was to identify points of commonality and deviation for bilingual children and SLI children, across a range of cognitive tasks. It concluded that both monolingual and bilingual typically developing children, outperformed the monolinguals with SLI and provides a valuable starting point for examining different instances of typical bilingual and monolingual language learning, and language impairment within the same cognitive framework
(Kohnert et al, 2009). Such research is important as this presents issues and solutions for diagnosis, and is valuable for future research in this field.

Similar research was done by Angela Grimm and Petra Schulz in 2013, and focused on the prevalence of misdiagnosis in children diagnosed with SLI and bilingual children. The sample included 92 monolinguals and 72 early L2 learners aged 5-8 years. Frequency of child and family risk factors were assessed via parental questionnaires and misdiagnosis was calculated by comparing children’s identification as (non)SLI via a standardized test with their clinical diagnosis. The conclusion that Grimm and Schulz came to is that under-diagnosis was more frequent than over-diagnosis, suggesting that early L2 learners can easily be confused with children with SLI, and that proper diagnosis measures that consider the many variables within these groups are needed (Grimm & Schulz, 2014). Thus, new tests are frequently being developed and evaluated, and in response, funded research by the National Institute on Deafness and Other Communication Disorders (NIDCD), has developed a dual language diagnosis test, for effective identification of bilingual children with language impairments. The same research team is also working on an intervention program with a selective group of bilinguals with SLI, to try to discover techniques that can help with academic success (Specific Language Impairments, 2017). Although research like this is not extensive, it does give a valuable insight into the importance of correct diagnosis of SLI and thus contributes to further understanding of the relationship between these two subjects.

4.4 Summary

The last chapter has highlighted the relationship between bilingualism and SLI and pointed out the many apparent similarities between children with SLI and bilingual children, such as late speaking and an apparent smaller vocabulary. The several types and overlapping factors may be confusing to parents and caregivers, who may consider whether eliminating subsequent languages, may simplify linguistic acquisition. However, research to date has indicated that bilingualism is not a disadvantage for children with SLI, as bilingual children with SLI seem to develop in similar ways to their monolingual peers with SLI. Furthermore, the chapter discussed language acquisition for these children, and differentiated between simultaneous learners and sequential learners. This suggested that neither one of these groups are at a disadvantage due to the dual language exposure, although sequential learners that learn L2 as a minority language, may learn this slowly due to limited exposure. Following this, the
section highlighted the importance of environmental and social influences, and how limited input is likely to affect outcome. Therefore, a child is going to be affected by limited input regardless of SLI or not, and careful consideration needs to be applied when differentiating between lack of speaking due to SLI, or lack of speaking due to limited exposure to the language. The last section outlined current research and how this is focused on disentangling SLI problems from similar problems associated with L2 language acquisition. However, it remains clear that this is a relatively new area of research and therefore there is scope for further study within the field of BISLI.
5 Conclusion

The above paper has examined the relationship between specific language impairment and bilingualism, following the hypothesis that diagnosis of SLI does not appear to be detrimental for effective bilingual language acquisition. The paper has outlined the main characteristics and findings of these two fields and thus highlighted the complexity of the field of bilingualism, the many types of bilingual learners and the associated and variable abilities. Such definitions can ultimately be narrowed down to simultaneous and sequential acquisition, contributing factors that can play a crucial part in the effect bilingualism has on the speaker. Consequently, bilingualism is often, and wrongly associated with delayed onset of speaking, despite a dearth of research suggesting otherwise. It therefore seems clear, that there are many benefits and advantages to bilingualism, such as increased metalinguistic awareness and enhanced executive control. To give a balanced overview of both fields, the paper has also included a discussion of specific language impairments and examined the typical characteristics. Thus, it was clarified that SLI can be characterized by difficulties with speaking as well as understanding spoken language, and is often diagnosed when there are no obvious disabilities or associated developmental delays, that can account for the impairment. Whilst current research has strongly suggested that the impairment is due to genetic factors, it is also clear, that the disorder can be influenced by social and environmental factors, although such influences are only contributing factors rather than a cause. The last chapter focused on the comparison of these two distinct fields, in order to examine the relationship between SLI and bilingual acquisition. Investigations like these are significant, as to date there is limited understanding into the effects SLI has on the ability to become bilingual. For these reasons, many caregivers are unsure whether there is need to eliminate language to simplify the learning environment for children with SLI. However, current research suggests that the diagnosis of SLI does not hinder bilingual acquisition, although there may be some differences between simultaneous and sequential acquisition. Therefore, the paper supports the notion that children with SLI can become successful bilingual speakers, although it must be made clear, that this ability is within the limits of their language impairment. Thus, language difficulties that are present in one language will be present across all domains, and therefore these children may not be comparable to typically developing bilingual speakers, but to their monolingual peers with SLI. This suggests that a bilingual environment should be maintained and supported, even in the events of additional complications such as the
diagnosis of SLI. However, it must be clarified that due to the immense variables within both fields, studies to date are not extensive, and therefore there is scope for further study, especially into the diagnosis and support for bilingual children with specific language impairments. Future research could therefore be directed into further development of diagnostic tools for bilingual children with SLI, to avoid under and over diagnosis of the impairment, and confusion between these distinct, yet intermingled fields. By this, research can create platforms for valuable and specific support for parents to avoid unnecessary language elimination, and to support bilingualism across all domains and abilities.
References


