The purpose of this article is to describe the process of becoming bilingual by sharing my own experience being raised in a four-language environment and how it influenced the upbringing of my daughter in two, and subsequently three languages. The other purpose is to dispel the myth that children with language, developmental and/or intellectual impairments or those diagnosed as being on the autism spectrum cannot or should not be exposed to two languages because it is confusing, or because they simply cannot handle two languages due to their disability. As a bilingual speech and language pathologist (SLP) who has practiced in the United States for four decades, I have unfortunately witnessed that many teachers as well as other well-meaning professionals including psychologists, therapists and even physicians discourage these children’s parents from using their first language because it might be confusing or too difficult for the child to handle. A review of recent research on children with special needs who have a variety of language, learning and communication challenges contradicts this view. The information presented should be helpful not only to parents but also to various professionals including therapists and physicians who come into contact with children with special needs who are growing up in a bilingual environment.

**KEY WORDS**

multilingualism; learning disorders; language disorders
BACKGROUND

A review of the history and trajectories of many bilingual individuals whose path I have crossed or have read about has led me to conclude that no two stories of individuals raised speaking even the same two languages are the same. Each story has its own characteristics, twists and turns. With the massive explosion of information available on the Internet, it is possible to access many interesting articles and resources on the development and nurturing of bilingualism. However, after a few hours of reading and reviewing what is available, one realizes that there is a great deal of duplication, which is inevitable because the writers repeat something general as a way to introduce their own contributions. This article may have some similar characteristics to others that may be familiar to the reader, but, in reality, it is difficult to avoid repeating something that has been written somewhere else. Nevertheless, I hope that the content of this article will bring something new or something to reflect upon even for those readers who have a more extensive background in bilingualism or wish to raise their child bilingually. Also, it is hoped that the content will encourage parents to continue speaking their first language, which often is also their preferred one, even when their child may have a speech, language, and/or communication disorder or another disability that impacts language and academic development. In some cases, parents do not speak English or the primary language of a given country, and communication between parents and children may be lost. Beller (2008), Cummins (2001), Fillmore (1991) and Skutnabb-Kangas (2012) are some helpful references to review regarding the importance of maintaining and developing the first language of children being raised in a different language environment.

To begin with, I will briefly describe some general properties of language and provide a definition of bilingualism/multilingualism. The introductory information will be followed by how individuals become bilingual/multilingual and the factors that influence the success of becoming and remaining bilingual/multicultural throughout adulthood. Some of my own experiences as a speaker of four languages and parent who has attempted to raise a child in two languages other than English will serve as an illustration of the content. The final section of this article will provide some general suggestions for parents who are raising or who wish to raise their child or children speaking two or more languages. A review of relevant research on bilingualism and various language, learning and cognitive impairments will be provided as a means to encourage those parents and families who may feel ambivalent about continuing their communication in their preferred language and/or who may hesitate to enroll their child in a bilingual program or expose them to/teach them in another language.

DEFINING LANGUAGE AND BILINGUALISM

Oral language development is a human process that proceeds normally if and when conditions are appropriate. Although several theories of language acquisition have been proposed and continue to be discussed, it is evident that an interaction between nature and nurture components must exist. The scope of this article does not permit a lengthy discussion of any of the major theories, other than to direct the reader to a general yet comprehensive review by Turnbull and Justice (2012). Both intrinsic and extrinsic factors play a major role, however. Intrinsic factors include intact hearing, speech and neurological systems as well as the child’s overall normal health and development. Extrinsic factors include input from persons interacting with the child and exposure to varied experiences including positive attitudes towards each language and bilingualism within the family and the community.

Bilingualism and multilingualism, two terms that are often used interchangeably, are quite common in our world, and occur in many different ways. It is difficult to determine the exact number of persons who are bilingual due to several reasons (Erard, 2012; Grosjean, 2010). A few reasons include the different ways the Bureau of the Census formulates its questions about an individual’s command of languages. For example, Erard (2012) argues that the United States Bureau of the Census should ask whether a given individual can carry out a conversation in another language, which may not necessarily be the individual’s primary language, instead of asking which languages are spoken in the home. For example, a family member may be proficient in one or more languages, whereas others within the same family may be monolingual. Another difficulty as reported by Grosjean is that speakers of dialects are not considered to be bilingual.

First language acquisition proceeds in an almost magical way from birth, whereas becoming bilingual is possible at any time of one’s life and may occur with more or less effort depending on the individual and his/her unique circumstances. There are optimal times at which a second or third language may be acquired with greater ease when the individual is younger, but it is possible to acquire a language later in life. The advantages of acquiring a language at a younger age than 12 or 13 is that the person will most likely not have a non-native accent that reflects the fact that they are second language speakers of the language due to brain lateralization. The reader is referred to a seminal article, which is still applicable today (Scovel, 1969).
There are hundreds of definitions for bilingualism, and this might be a reason for contradictory findings in research papers on various issues related to the topic. A practical definition proposed by Grosjean (2010) is as follows: "Bilingualism is the use of two (or more) languages in one’s everyday life and not knowing two or more languages equally well and optimally (as most laypersons think)".

**HOW DO INDIVIDUALS BECOME BILINGUAL?**

The manner in which an individual becomes bilingual can occur in many different ways, and several publications addressing parents, teachers and other professionals review this process (Baker, 2014; Grosjean, 2010; Harding-Esch & Riley, 2003; Pearson, 2008; Thomas, 2012).

Becoming bilingual may happen from the time a child begins to talk. Situations that facilitate this phenomenon are when parents speak one language and the community speaks another, each parent speaks a different language, or a caretaker who lives with a family addresses the child in a language that is different from the parents’ or the community’s. In my case, my parents and grandparents spoke Polish to me as I was growing up in Mexico where Spanish is spoken. Our daughter Maxine born in California grew up in a situation where I spoke French to her and her father spoke English. A child may also be trilingual if each parent speaks a different language from that of the community, or a caretaker speaks another language than the parents and the community. Simultaneous bilingualism refers to when the child is exposed to two or more languages from birth. When a child learns a second or third language after the initial language or languages have developed, the child is considered a sequential bilingual. In my case, I subsequently learned French in an immersion school in Mexico City where I grew up at the age of five and English at the age of 12. Thus, I was a simultaneous bilingual in Spanish and Polish and a sequential bilingual/multilingual in French and English. Maxine, my daughter, was a simultaneous bilingual in French and English and a sequential bilingual in Spanish. She began receiving more consistent exposure to Spanish after the age of 4 when we traveled at least once a year to Mexico to visit my parents. However, she did not begin using the Spanish language until after several visits to Mexico and practicing the language with Spanish speakers (which is fairly easy in California) where we live, as well as taking courses throughout high school and college.

Several factors play a role in the development and maintenance of a language other than the one spoken in a given country where a child resides. The reader is referred to many resources that discuss raising children bilingually and related issues, such as Baker (2014), Grosjean (2010), Harding-Esch and Riley (2003), Pearson (2008) and Thomas (2012). The most frequent factors include consistency in the use of each language, contact with peers who speak the same language, exposure to the language through literature and music, visits to the country where the language is spoken or visits from people who speak the other language(s). However, upon reflection, the main factors that influenced my ability to acquire Polish, the second language I spoke while being raised in Mexico, include the following: 1) My parents and grandparents consistently spoke to me and my one-year-younger brother in Polish; 2) The adults motivated us to know the language by telling us their own stories in Polish, exposing us to games, customs, and foods that were typical of Poland; and 3) They showed us that they were proud of us for responding and conversing in Polish to them and their adult friends. Interestingly, my brother and I had no peers in the community who spoke Polish, as the children of immigrants from Poland switched to Spanish when interacting with their children. Even though my brother and I spoke Polish to our parents and grandparents and their friends and acquaintances, he and I spoke Spanish when we played together or when we were alone and, of course, when we played with other children in the neighborhood. This last occurrence is quite frequent in children growing up in similar circumstances to ours (Baker, 2014; Grosjean, 2010; Thomas, 2012). Once we began the French immersion program, my brother at age 4 and I at age 5, we began speaking French when we conversed, and this is our current language of interaction after more than 60 years even though we both reside in the United States. My case illustrates the association of a given language with specific persons and/or circumstances. Throughout my childhood and adolescence, using Polish was associated with communication with parents and grandparents and their adult friends, Spanish with the community and my brother, and subsequently French in my grade school with teachers and peers as well as my brother. English became an additional language at first, and subsequently it became my primary language of communication once I moved to the United States to undertake my graduate education. It is not unusual to experience shifts in the proficiency of one’s languages over time.

Additionally, the percentage of time speaking/using as well as reading and writing each one of my four languages has switched dramatically over the past fifty years. This shift is illustrated in Tables 1 and 2. The change in percentages of times where I use Spanish and English is significant because I moved to countries where each language became the majority language. The shifts have been less dramatic for the use of Polish or French. Yet, the percentages of the amount each language is used do not reflect the
manner in which each language is used. Currently, I speak, read, write, and lecture primarily in English. I use Spanish to interact with clients and their families who need to be assessed for speech and language skills, I read and write but not as frequently in the language, and I also lecture in that language on occasions. I continue to speak French as I did fifty years ago, although the circle of persons I communicate with in that language has been considerably reduced. I speak Polish less frequently, but I have visited Poland several times in the last decade and I have begun to read and write more in the language. The fact that I have been to Poland and lectured on bilingualism has broadened my professional language in the language as well. A switch in language proficiency and use has also occurred in my daughter’s everyday communication encounters. Her use of French has decreased considerably in the last 17 years. Until that age she interacted in French during about 50% of our interactions and with a private French teacher twice a week. We now rarely speak in French, except for my speaking to her in French as much as possible during our interactions while she responds in English most of the time. Her use of French is limited to situations where she needs to tell me something in private. Her Spanish use has increased, not with me, but in her daily professional work. Therefore, in addition to quantifying the time a given language is used, it is important to describe the functions performed in each language. One significant difference between my daughter and myself is that, at her age, I was very committed and motivated to continue using and maintaining the languages I knew in spite of living in the United States where it is difficult to preserve one’s languages unless it is Spanish. I did continue reading in French and some in Spanish, and I did seek contacts where I could speak Polish. In her case, it appears that the use of languages has more specific functions, such as to communicate with some of her clients (Spanish), rather than for interest in preserving and developing those languages. In summary, to have a more accurate picture of a child or individual’s proficiency of a given language, a careful history should be obtained to trace the trajectory of each language and how the use of that language may have shifted over the years.

Table 1

*Shifts in percentage of time in the use and functions of my four languages within a month period over a 50-year span*

<table>
<thead>
<tr>
<th>Languages</th>
<th>1965*</th>
<th>Functions</th>
<th>2015**</th>
<th>Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spanish</td>
<td>70%</td>
<td>Speaking professionally and conversationally, reading, writing</td>
<td>20%</td>
<td>Speaking professionally and conversationally, reading, writing and lecturing</td>
</tr>
<tr>
<td>Polish</td>
<td>20%</td>
<td>Conversation</td>
<td>10%</td>
<td>Conversation, everyday reading and writing, occasional lecturing</td>
</tr>
<tr>
<td>French</td>
<td>15%</td>
<td>Conversation, reading, writing</td>
<td>5%</td>
<td>Conversation, occasional reading and writing</td>
</tr>
<tr>
<td>English</td>
<td>5%</td>
<td>Conversation, some reading</td>
<td>65%</td>
<td>Conversation, reading, professional and everyday writing, lecturing</td>
</tr>
</tbody>
</table>

Note: *Place of residence: Mexico; **Place of residence: USA.

Table 2

*Shifts in percentage of time in the use and functions of languages of Maxine within a month period over a 17-year span*

<table>
<thead>
<tr>
<th>Language</th>
<th>1998</th>
<th>Functions</th>
<th>2015</th>
<th>Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>80%</td>
<td>Conversation, reading, writing</td>
<td>80%</td>
<td>Speaking professionally and conversationally, reading, writing</td>
</tr>
<tr>
<td>French</td>
<td>10%</td>
<td>Simple conversation (50% with me)</td>
<td>2%</td>
<td>Simple conversation (20% with me)</td>
</tr>
<tr>
<td>Spanish</td>
<td>10%</td>
<td>Conversation, academic reading and writing</td>
<td>18%</td>
<td>Speaking professionally and conversationally</td>
</tr>
</tbody>
</table>

Note: Place of residence: California, USA.
those of us residing in countries where geographical distance separates us from other countries where other languages are spoken, it is much more difficult to keep each one of our languages alive. I have often equated the upkeep of languages to that of a garden or arboretum. Each flower of a garden or tree should have as much of its needed sun, water and fertilizer as possible. And, very importantly, motivation is an important factor in accomplishing this goal.

**HOW TO MAINTAIN AND NURTURE BILINGUALISM IN YOUR CHILD WITH SPECIAL NEEDS**

There are many resources, in addition to those cited above, which may be helpful to those seeking ideas to raise their children bilingually. Some helpful Internet sites include FAQ: Raising Bilingual Children (Sorace & Ladd, n.d.) and a weblog for parents and families who are raising their children in more than one language that includes answers to various possible scenarios where children are raised bilingually (Rosenback, 2014). My personal tips are: 1) Engineer a language environment where the child can associate a language with a person and/or situation; 2) Be as consistent as possible in maintaining that environment; 3) Make your child feel proud of being bilingual by praising his/her attempts to respond and/or use the language; 4) Expose your child to the other language(s) by enhancing contacts with other children or individuals who use the language and possibly traveling to that country or receiving visitors from that country; and 5) Talk about and make the child experience the culture of that language through literature, music, art, food and general traditions.

For those parents who have children with special needs, which may affect speech and/or language due to specific language impairments or secondary to diagnoses such as autism or cognitive impairment, the myth about the child not being able to acquire two languages should be dispelled. An emerging body of literature, although still scant, indicates that given a nurturing and consistent environment, children may acquire two languages. Thus, the myth that two languages interfere with language development is no longer valid (Paradis, Genesee, & Crago, 2011). And, specifically, exposure to two languages will not arrest the development of the languages or language development in general. These children will master each language at the pace and level of their individual capacity and input in each language. Evidence-based research indicating that individuals with more language/cognitive disabilities can “handle” two languages is emerging. However, several factors need to be accounted for, such as teachers’ and parents’ support and the attitude of the community towards bilingualism. Additionally, there is evidence that offering therapy in the first language may aid in developing both languages. A review of studies is discussed below.

**BRIEF DESCRIPTION OF BILINGUAL CHILDREN WITH SPECIAL NEEDS**

The information provided below has been categorized into different sections according to the type of the child’s defined special needs. However, the reader must keep in mind that it is not exhaustive due to emerging literature. Yet, it should be sufficient to dispel the myth that children with special needs cannot or should not be exposed to two languages and, very importantly, to dispel the myth that parents should not interact in their first or preferred language when the language of the community is different.

**Speech-Language Impairment (SLI)**: Even though there is limited research in this particular area, just as in other categories of disabilities, there is evidence that children with language impairment in their first language can learn another language, although conditions need to be of a certain nature, including consistency in instruction and a positive attitude toward bilingualism by their families and their environment. In her study, Bruck (1982) compared the performance in various comprehension and expression tests of students who had been schooled in immersion programs for two years, whose first language was either French or English, and who had a speech-language impairment in their native language, with the performance of control children. There were 27 children in the French language-impaired group and 34 in the control group, 27 in the English language-impaired groups and 29 in the English control group. The findings indicated that there were essentially no differences between the language-impaired children’s performance in each one of the languages between those who had been schooled in two languages as compared to those who had been schooled in only one language. Although there were a few differences between the groups in some of the subtests administered (auditory closure and sound blending in English), the differences were attributed to the fact that the children attending the immersion programs had not been sufficiently instructed in English yet. The French-speaking language-impaired children were behind the controls in expressive language and oral reading compared to controls. However, overall, the children with language impairments were acquiring the second language at the same level as the controls, and with time it is likely their performance would be higher. One of the reasons for success of the minority children was that there was support from the teachers, parents and community. Even though this study was conducted more than 30 years ago, the findings are supported by a more recent research study car-
ried out by Paradis, Crago, Genesee, and Rice (2003) with simultaneous French-English speaking children identified as having a language impairment who were attending immersion programs in Canada. Their language performance was compared to controls that were monolingual French or English and identified as having SLI. The results indicated that the profiles of the bilingual children were similar to those of the monolingual children, and being bilingual did not mean having a greater impairment. Therefore, being bilingual does not put these children at a greater risk. However, this study did not consider the children’s performance in an immersion program.

Nevertheless, there is increasing evidence that offering bilingual intervention for children with SLI (Spanish-English) increases their language performance in both the primary and second language. For an overview the reader is referred to Simón-Cereijido (2014) posting. In this blog the author reports evidence indicating that children identified with SLI from bilingual backgrounds (Spanish-English) who are instructed bilingually benefit in improving language skills in both languages. The author references various supporting research articles, in particular a study she conducted (Simón-Cereijido & Gutiérrez-Clellen, 2014) using a program the researchers had developed and had tested previously on 300 children entitled Vocabulary, Oral Language and Academic Readiness (VOLAR). Forty bilingual preschool children who followed this program over a one-year time period were compared with 30 children controls. The results indicated that all children who followed the program improved in oral language skills, which was utilized as a measure of progress, including for those children who had SLI. These findings support the fact that a dual language program and/or intervention can be beneficial to all children, including those who have been identified as having SLI.

Learning Disabilities (LD) and Other Health Impairment (OHI): This was based on a recent doctoral dissertation that compared students with special needs whose primary language was Spanish or English attending an immersion program in Arlington, Virginia, with controls attending programs conducted in English only (Myers, 2009). The group of special needs students comprised four different categories that included as a majority learning disabilities and other health impairments (for details of this category the reader is referred to Grice (2002)). In addition, there were only a few students who belonged in the developmentally delayed (DD) and educational disturbance (ED) categories. The results of the study indicated that the students with special needs attending the immersion Spanish/English program did not perform any worse academically than those attending an English program. Therefore, the data support the fact that students with special needs enrolled in an English-only program can achieve academically as well as those who attend an immersion program. The advantage for the former students is that they can become proficient in two languages. Similar results have been obtained with students with special needs (Lindholm-Leary & Howard, 2008). However, the students had some literacy skills in Spanish although they were behind in English compared to attending a dual immersion program. These advantages are more clearly shown in the upper grades. Data from the Collier and Thomas studies with bilingual immersion programs, which included English-language learners (ELL), African-American children and children with learning disabilities, indicated positive outcomes for those students included in the program (Thomas & Collier, 2009, 2010).

Genesee (n.d.) reports that there have been no studies on the performance of children in language immersion programs who have been identified as having reading difficulties other than three studies which included results of children who were at risk for reading (Bournot-Trites & Denizot, 2005; MacCoubrey, Wade-Woolley, Klinger, & Kirby, 2004) and children who were poor readers (Bournot-Trites & Denizot, 2005). Results from these studies indicated that if a child is at risk for learning how to read in a given language, he/she is also at risk for reading difficulty in another language due to cross-linguistic factors. Further elaboration on specific reading disabilities such as dyslexia in bilinguals can be found in the paper by Goral and Conner (2013). Several of the students who are described compared the performance on various reading parameters such as phonemic and morphological awareness, word recognition and types of language scripts. One of the problems in assessing dyslexia in any given language is related to the type of orthography of that language. For example, the authors indicate that reading rate affects those languages where the alphabets are transparent (consistent letter-sound correspondence), whereas reading accuracy will be compromised in languages where the alphabets are opaque (no consistency between letters and sounds). Also, phonemic awareness is of greater importance in languages that are transparent, and morphosyntax awareness is more important in languages that are logographic such as Chinese. A recent study by Abu-Rabia and Blaustein-Danon (2012) with bilingual Hebrew-English speaking children where intervention was provided only in English indicated that improvements were noted in both languages in phonological, morphological and syntactic awareness, reading fluency and non-word reading decoding, indicating transfer across languages. However, no transfer was noted in spelling and writing in Hebrew, only English. This is understandable given that the script is different and the direction of reading is right to left. Therefore, not all reading skills may be easily transferred from one language to the other as a result of...
the specific characteristics such as the script of the language. This emerging research cautions all educators to avoid cross-linguistic generalizations about transfer of reading and writing skills across various types of languages.

Cognitive/Intellectual Disabilities: As with other categories of disabilities, there is very limited information available on bilingual children/individuals who are part of this particular population with a few exceptions. A study by Woll and Grove (1996) documents that individuals with Down syndrome acquire two languages for functional use (cited in Kay-Raining Bird, 2010). The same author references two studies – by Feltmate and Kay-Raining Bird (2008) and Kay-Raining Bird et al. (2005) – which report that monolingual individuals with Down syndrome have comparable language strengths and weaknesses to those who are bilingual. The first study focused on vocabulary and morphosyntax, while the second study focused on vocabulary comprehension, the Communication Development Inventory (CDI) (Fenson et al., 2007) and a language sample. This indicates that bilingualism does not interfere in the students’ overall language development.

Children on the Autism Spectrum. Many of the conclusions of the few studies available regarding bilingualism and autism spectrum disorder (ASD) need to be evaluated with caution, since there is great variability in language and cognitive skills within this population, which naturally will impact on the development of language, communication, and the acquisition and performance of a second language. An up-to-date report by Park (2014) surveys several of the recent studies on ASD and bilingualism. Although “there is no experiment, let alone group of experiments, that can definitively answer whether bilingualism is beneficial for children with autism”, the author argues (p. 213) that the information available can shed light on decision making on the part of professionals and families. Specifically, Hambly and Fombonne (2012) found that preschool children raised as bilinguals in French-English (simultaneous and sequential) had comparable language skills compared to a control group exposed to one language only. Petersen, Marinova-Todd, and Mirenda (2012) reported that there were no differences between bilingual children (Chinese-English) with ASD and monolingual peers (English) in conceptual, receptive and expressive vocabulary between the two groups in English. The study by Valicenti-McDermott et al. (2013) comparing toddlers who had been identified with ASD and who were growing up in a bilingual environment with monolingual controls found that there were no differences in language skills between the two groups. However, those toddlers growing up in a bilingual environment produced more gestures and had more advanced play skills. A case study by Seung, Siddiqi, and Elder (2006) with a Korean-speaking child who received therapy in Korean demonstrated that the child progressed not only in Korean but also in English.

There is no question that the research on bilingual children with ASD is also scarce, but as noted for other groups with special education needs, there is no reason to counsel parents and families to switch to English or the majority language because of fear of confusion or language delay. In the case of children identified with ASD, it is especially important to encourage the communication of parents and families with their children. This concept is further reinforced by Yu (2013), who conducted in-depth interviews with 10 Chinese-speaking mothers of children who were diagnosed to be on the ASD spectrum. In her research, Yu observed that parents wanted to continue speaking Chinese, but were advised to the contrary by professionals with whom they came into contact. During some meetings, I have had parents cry because they felt “guilty” speaking to their children in Spanish and feared that it would delay their child’s language development in Spanish. Thus, my strong recommendation for parents is to communicate with their child in a language they know well and “which comes from their hearts,” as it will not “harm” the child who is also exposed to a second language.

SUMMARY

In this brief article I have reviewed general aspects of bilingualism and how individuals around the world can become bilingual. The purpose was to connect my own experiences in being a speaker of four languages with these aspects and report my efforts and outcomes in raising my own daughter in two languages other than English in an environment where only one language is the official language of the country (English). Because of my profession as a bilingual SLP for more than 40 decades, I also wished to review the current research on bilingualism and children with special needs to encourage and support parents and families who wish to continue interacting in their first language with their children when the majority language of the community is different. Specific sections on some of the main special education categories were offered with some support evidence from a few of the existing studies. Although still limited and varied in scope (number of subjects, languages considered, length of language teaching/use/intervention, subject’s linguistic and cognitive characteristics, socio-economic backgrounds), this research indicates that there is NO REASONABLE FOUNDATION to counsel parents who speak another language at home to switch to the majority language because it will be confusing or delay their children’s with special needs overall language, communication or academic development. Furthermore,
there is no basis to indicate that these children may not succeed in a bilingual learning environment or that intervention in their first language is contraindicated.

It is very important that teachers, special educators, specialists, therapists and medical professionals get acquainted with the issues regarding bilingualism and applications to children with various language, communication, cognitive and academic challenges. As new research develops, the findings should be made available to the public via the increasingly accessible multimedia. I recognize that the overview I have offered has been carried out with bilingual children with special needs residing in the United States and Canada. Differences may be found when considering those who are growing up in other parts of the world. However, it is my hope that a sufficient number of readers and parents will have access to this information to help them resolve their dilemma regarding the use of their first language with children identified as having special needs.

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