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The Effects of Bilingualism on Language Development of Children

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Introduction

Bilingualism is the ability to communicate fluently in a language other than your native language. As our world becomes more global, we also become increasingly bilingual. Approximately 20% of the United States population is bilingual (Owens, 2012, p. 219). Although the majority of bilingual speakers communicate in Spanish along with English, our native language, many other second languages are spoken in the United States. Some common second languages that are spoken by bilingual speakers include Chinese, Vietnamese, French, German, Korean, and Arabic.

The mixing of cultures leads to bilingualism. Specifically, exposure to languages from neighboring regions can influence the development of bilingualism. For example, states that are closer to Mexico have increased Spanish-English bilingual populations than states further from Mexico. States with higher amounts of Spanish-English bilingual speakers include California, New Mexico, Texas, and Arizona (Grosjean, 2012). Additionally, immigration to the United States also increases bilingualism. It is estimated that there were 42.4 million immigrants living in the United States in 2014 (Zong & Batalova, 2016). Mexican immigrants made up the largest percentage at 28% of the 42.4 million immigrants living in America. However, multiple immigrants also came from India, China, the Philippines and the Dominican Republic.

Bilingualism can occur in ways other than immigration. People can also decide to learn a new language on their own. A person can become bilingual with dedication and practice of the language. Often, individuals who decide to become bilingual do so because of its many benefits. For example, learning another language can lead to improved executive function, increased

ability to communicate with others, and improved cultural competence. Executive functions are

skills that allow people to complete tasks by organizing information properly.

In terms of proficiency in learning two languages, equal proficiency in both the native

and second language is relatively uncommon. Typically, unbalanced bilingualism, or when an

individual has an increased proficiency in one language compared to the other, is the most

common type. However, it is important to point out that the language that is stronger is not

always the native language. People can become more proficient in their newly learned language

than their native language if they do not use their native language often (Owens, 2012, p. 220).

Due to the many ways in which individuals learn languages, there have been numerous

terms used to describe the various levels of language learning related to bilingualism. These

terms include English Language Learners, English as a Second Language, and Limited English

Proficiency. English Language Learners (ELL) are people that are learning both their native

language and the English language simultaneously. English as a Second Language (ESL) is used

to refer to non-native English speakers that are learning English in an environment that speaks

English. Limited English Proficiency (LEP) refers to a person that does not speak English as

their primary language. These people also have a limited ability to read, write, comprehend, and

speak English. Further, Language 1 (L1) and Language 2 (L2) are terms used to describe the

languages of bilingual speakers. L1 refers to the native language of the speaker. L2 refers to the

second language that the person is learning, not the native language of the speaker.

Regarding the acquisition of language in one's native language, early signs of

communication occur when infants realize that their vocal actions cause interactions with others

including their parents. For example, communication occurs when an infant cries and

understands that this will lead to them getting food, or comfort. Young babies begin to recognize the voice of their caretaker. Babies develop the ability to sort speech sounds that make up words in their language. Usually, at the age of six months, babies recognize simple sounds from their native language.

However, the development of speech and language skills often varies in children. Typically-developing children acquire language by following a natural progression when they master skills. A list of the milestones that occur during language development is included in Table 1. Health professionals use these milestones to determine if a child is developing language at a typical rate, or if the child may need intervention to further develop their language skills. Delays in language development may be due to a speech or language disorder, or hearing loss.

Table 1. Communication and Language Development Milestones (2-24 months)

Milestones	Average Age Skills Develop (months)	Implications of development
Smiles at faces	1.5	Increase in active social participation
Babbles	6	Experiments with sounds
Use of "no"	7	Response to tones
Follows one step commands when paired with gestures	7	Response to gesture
Follows one step commands without gestures	10	Verbal receptive language
Monosyllabic (mama, dada)	10	Expressive language
Points to object	10	Interactive communication
Pronounces first real word	12	Labeling

Speaks 4-6 words	15	Learns names of people and objects
Speaks 10-15 words	18	Learns names of people and objects
Produces 2 word sentences	19	Vocabulary of 50+ words

Note. Adapted from Chats, R. (n.d.). Language development in children components, requirements and milestones Retrieved from http://www.childhealth-explanation.com/language-development-pg2.html

Language can be categorized into three major components, including form (or the syntax, morphology, and phonology of language), content (or semantics), and use (or pragmatics; Owens, 2012, p. 18). Here, we will discuss each of these aspects of language separately.

First, syntax is composed of rules that determine the structures of sentences. These rules establish the order of words, phrases and clauses, sentence organization and the relationship between words, phrases and sentences. Also, syntax dictates whether word combinations are grammatically correct or not. For example, syntax of English clarifies why "The boy ran to the dog" is a possible sentence, whereas "The boy to dog the ran" does not make sense (Owens, 2012, p. 19).

Every sentence needs a noun phrase and verb phrase. Overall, if a sentence does not have both a noun and a verb, then it cannot be considered a sentence (Owens, 2012, p. 19). The following may appear to be a sentence, yet it does not qualify as a sentence because it does not have a verb phrase: "The movie with the family of three kids, their neighborhood and pets in the theater on Wednesday evening." Likewise, each phrase is composed of words that are combined in a particular order. Specifically, articles such as 'a' and 'the' are placed before nouns. This is seen in the example "The boy went to school." Adverbs such as 'quickly' follow verbs, as in the phrase "He ran quickly".

Many languages have rules for how words need to be placed in speech. English follows the subject-verb-object (SVO) word order. This is why the sentence "The girl ran to the car" is acceptable in English. By comparison, other languages such as Japanese follow the subject-object-verb (SOV) word order, and yet others use a verb-subject-object (VSO) order as seen in individuals who speak Gaelic (Owens, 2012, p. 20).

Morphology deals with the formation of words with each word having at least one morpheme. A morpheme is the smallest meaningful unit of language. The word *dog* is one morpheme because *d* and *og* alone are not meaningful. The word can also be split into *do* and *g*. This is also meaningless because the word *do* does not relate to *dog*, and *g* is not meaningful (Owens, 2012, p. 21). There are two types of morphemes: a) free morphemes that function independently, and b) bound morphemes that do not function independently. Examples of free morphemes include *rug*, *happy*, and *toy* whereas bound morphemes would be 'un-', '–s', '-ly', and '–est' (Owens, 2012, p. 21). In this way, bound morphemes can be attached to nouns, verbs, and adjectives to give words more meaning.

Phonology deals with the organization of speech sounds within a language. Every language is composed of a variety of speech sounds that are known as phonemes. Phonemes are the smallest units of sounds that have meaning in a language. Humans are capable of producing 600 different sounds that are used in languages across the world. However, English has approximately 43 phonemes. Dialectal variance may impact this number slightly (Owens, 2012, p. 22).

By comparison, semantics governs the meaning of words. World knowledge and word knowledge are important components that allow people to understand the meaning of words.

World knowledge refers to an individual's understanding of events based on their experiences. In contrast, word knowledge is knowledge that is gained through words and symbols. This can be through writing or speech. Both types of knowledge allow individuals to associate meaning to words (Owens, 2012, p. 23).

Finally, pragmatics focuses on the way language is used to communicate. Specifically, it consists of conversational rules, types of discourse, such as jokes and narratives, and ways of appropriately communicating ideas (Owens, 2012, p. 24).

Effective pragmatics is achieved when an individual understands the culture and the people that relate to the conversational act. For speech to be understood, it needs to be directed towards the correct people. If the speaker is not communicating with others with whom they want to share their messages then their ideas will not be shared. Culture is related to pragmatics because the people involved in the conversation need to be aware of the rules of society so they can understand when and how it is acceptable to interact with and speak with others.

There are many professionals that work with the ELL population. These professionals need to have patience to work with this population because it can be very difficult for students to learn a new language. The two most common professionals that work with the ELL populations are ESL teachers and speech-language pathologists. ESL teachers directly teach students how to use the English language. In fact, all types of teachers work with ELLs because any teacher may have an ELL student in their classroom. Therefore, teachers don't need to be ESL teachers to work with ELLs. Teachers need to have proper training that allows them to understand how to implement teaching strategies to help these students understand what is being taught. Speech-language pathologists work with the ELL population by helping them comprehend and articulate

words in English. Speech-language pathologists can also work on accent reduction and fluency with their ELL clients.

This essay will investigate the effects of bilingualism on language development in children by addressing these questions:

1. How do literacy skills develop in children learning a second language?

2. What are the models that describe bilingualism? What are the benefits of bilingualism?

3. What factors influence the variability in second language acquisition among children?

Summary of Findings

Development of Literacy Skills in Children Learning a Second Language

Literacy is the ability to read and write. Children need to understand sounds, words, language and books before they can learn to read and write. Parents and teachers have important roles in helping children develop early literacy skills. They are both there to encourage children to learn to read and write by providing them with the building blocks needed for literacy, which include the ability to speak, listen, comprehend, and observe.

Usually bilingual speakers decide to become biliterate, meaning they develop the skills necessary to read effectively in both of their spoken languages. Having the necessary skills to read is important because it allows children to succeed academically. A study conducted by Wilson and Trainin (2007) reported that first grade students with early literacy skills displayed increased levels of motivation to achieve academically, which lead to an increased likelihood of academic success in their future.

Much of the learning that children acquire in school is through reading. Typically, children start to appreciate picture books in preschool. After children are capable of enjoying picture books, they move to beginning reader books and chapter books by first grade (Penguin Young Readers Group, 2010). Children then move to middle grade books in third grade and eventually to young adult books in sixth grade. During this time students begin reading textbooks to gain new information.

The ability to read at grade level is crucial in academic success, which was supported by a study conducted by Stage and Jacobsen (2010). The study assessed the reading fluency of 173 fourth grade students, and compared their reading fluency scores to scores that they received on

the Washington Assessment of Student Learning, which is a state academic test. The results

indicated that students with reading fluencies that were expected for their grade level performed

with high levels of satisfactory on the state assessment. Likewise, students with reading fluencies

that were less than expected for typical developing fourth grader students scored lower on the

test (Stage & Jacobsen, 2001). Overall, these findings strengthen the importance of helping

students achieve reading skills that are appropriate for their grade level.

In order to develop the ability to read children need to understand the relationship

between the letters written on pages in books and the sounds that they represent. Research

suggests that phonological awareness, phonemic awareness, and knowledge of the alphabet are

important to children's success in literacy development (Elliott & Olliff, 2008).

Studies have found that phonological awareness skills transfer across different alphabetic

languages. Leafstedt and Gerber (2005) examined phonological processes in first grade ELLs

and found that phonological processes exhibit cross linguistic transfer. This means that

phonological awareness in L1 is related to success in decoding words, (which means that the first

graders were able to understand meaning in words) from L1 as equally as they were able to in

L2.

In this study, 90 students who were Spanish speaking in the home and were enrolled in an

ELL program for two years were assessed. Trained bilingual assessors examined the

phonological skills of the students. Students received tests that examined their phonological

awareness (identifying stimuli pictures that rhyme, and begin with the same sounds, segmenting

words into individual phonemes, and blending individual syllables and phonemes heard on a

recording to form words), phonological coding (listened to recordings of Spanish and English

nonwords and were required to repeat what they heard), phonological recording (rapid object

naming), decoding (reading real and pseudo words), and vocabulary knowledge (assessed with

the *Peabody Picture Vocabulary Test, Third Edition)* (Leafstedt & Gerber, 2005).

Results found significant differences on the four phonological processing tasks between

students that attended schools with instruction in English versus those that received bilingual

instruction (Leafstedt & Gerber, 2005). Similarly, there were significant differences between the

groups on all decoding tasks. This indicates that a) phonological processes exhibit cross

linguistic transfer in ELLs, b) language of instruction influences reading in Spanish and English,

and pseudo word decoding in Spanish, but not in English, and c) phonological awareness is

related to all reading tasks in Spanish and English.

Additional research has shown that phonological processes are applicable to English and

French bilingual speakers as well. A one year longitudinal study examined 122 English speaking

students in French emersion classes and their phonological awareness and reading achievement

in both languages. Word decoding tasks, phonological awareness measures, and speed naming

activities were administered to the students. Findings show that students had equal phonological

awareness achievements in both languages (Comeau & Cormier, 1999). These studies support

the idea that phonological processes have cross linguistic transfer, specifically within the

languages of Spanish, French, and English.

In regards to phonemic awareness, it was found that as language levels of bilingual

children increase, so do their phonemic skills. Specifically, phonemic skills improve in terms of

vocabulary skills, sound repertories, and phonemic inferencing. One study, examined English

phonemic awareness and phonic skills among kindergarten students. The study examined four

groups which included (a) 20 English monolinguals with high reading abilities, (b) 20 English

monolingual speakers with low reading abilities, (c) 20 English-Spanish bilinguals with high

reading abilities, and (d) 20 English-Spanish bilinguals with low reading abilities. In the study,

participants were individually presented with recorded stimuli through an online PowerPoint

presentation, and prompted to recite the stimuli heard. Stimuli included English consonants in

initial and final positions of words, cognates (which are words that differ by a single sound),

developmentally appropriate graphemes (which are the smallest units used in writing, such as

letters), and phonemes (which are single sounds in a language), and words comprised of one and

two syllable. Results indicated that speakers that recited phonemes and graphemes accurately

were students with high reading abilities. Students that struggled to articulate phonemes and

graphemes were those that had difficulty reading at grade level. Additionally, researchers

observed that bilingual students had significant difficulties articulating voiced versus voiceless

phonemes compared to monolingual English speakers. This study suggests that students with

language competency at higher levels read at higher levels than those with lower languages

competencies (Brice & Brice, 2009).

Knowledge of the alphabet is a crucial skill to have when learning to read. Students start

learning the alphabet in kindergarten. Understanding the alphabet helps students pronounce

sounds in that language, as well as sounds in other languages, which helps students accurately

pronounce words. One study revealed that Spanish speaking students who understand Spanish

letters and the sounds of these letters have higher levels of understanding English letters, and

their corresponding sounds (Cárdenas-Hagan, Carlson, & Pollard-Durodola, 2007). In that study, 1,016 ELL kindergarten students were administered tests in English and Spanish. The *Comprehensive Test of Phonological Processing* (CTOPP) was used to measure phonological awareness, rapid naming, and phonological memory. The Test of Phonological Processing-Spanish (TOPP–S) was used to measure the skills assessed in CTOPP, but with the Spanish language. Results indicated that when students learn the alphabet and sounds in one language, then they tend to learn sounds in additional languages.

Another important component of pre-literacy skills that is targeted in early childhood is print awareness. Print awareness begins when young children engage in book-sharing activities with parents (Owens, 2012, p. 366). Book-sharing allows children to expand their vocabulary due to the fact that they are exposed to new words. Additionally, book-sharing provides children with opportunities to ask questions, which builds conversational skills. For example, children often ask questions about pictures in picture books during reading experiences. Typically, by age 3 children learn to recognize letters on pages. Some children may rhyme, and experiment with sounds. When children rhyme it demonstrates that they have an awareness of syllables. Phonological awareness gradually increases from an awareness of small segments of words, to larger parts of words. It has been found that children who are exposed to print in the home have increased phoneme awareness, letter knowledge, and vocabulary. The skills learned during book-sharing activities allow children to read.

Research has shown that children who are bilingual struggle with reading. For example, Levey, Langdon, and Rhein (2012) reported that many children who are bilingual have difficulty

with phonological awareness and vocabulary that negatively impacts literacy development. The earlier mentioned study by Brice and Brice (2009) suggests that the achievement gap in reading levels among monolingual and bilingual students begins as early as kindergarten.

There are multiple approaches to teaching bilingual children to read. One approach is to teach children to read in one language first and then work on transferring their knowledge of reading to the other language, which is known as sequential learning (Hammer, Miccio, & Wagstaff, 2003). On the other hand, parents and teachers might decide to teach children to read with simultaneous learning by teaching them to read in both languages at once. One study investigated the effectiveness of literature experiences among 28 children in bilingual preschoolers engaged in simultaneous learning of reading in Spanish and English and 15 students engaged in sequential learning, where they were exposed to literature in English, and then later exposed to literature written in Spanish. Researchers examined the impact of the two types of literature exposer on the students' literacy development with the *Test of Early Reading Ability–2*, which was administered during the first and second years of the children's learning experience. Results suggest that there is no difference between the literacy developments of children exposed to early literacy in the forms of simultaneous learning, compared to sequential learning (Hammer et al., 2003). These findings suggest that both simultaneous and sequential learning are effective in teaching bilingual students to read in both languages. It comes down to which approach the families deem most appropriate for their child.

In the instances where children learn to read in one language first, parents question whether they should begin with the minority language or the language that is spoken in the

community. Many families decide to work on reading in the minority language first, because they believe that their child will learn to read the language spoken by the community in school. This idea leads families to believe that their children will not have to work as hard to develop literacy skills in the other language. Studies support this idea, concluding that when children are repeatedly exposed to a language, then they will naturally pick up vocabulary in their everyday experiences (Kruk & Reynolds, 2012).

On the other hand, some children learn to read in the language spoken in their community before learning to read in their primary language. However, there have been some consequences to this approach. Studies have shown that when children learn the language of society first, then they experience loss of their primary language in the beginning stages of learning the language of society. Yet, it has been found that these students can develop the ability to read in their primary language later on with increased exposure to the literature written in this language (Fillmore, 1991).

Overall, it is up to the families and educators to decide on the approach that they take in teaching literacy to children. If they decide to teach the languages one way and decide that the approach is not working, then they can change the approach that they are taking.

Reading development is a complex task for both monolingual and bilingual speakers. Typically, bilingual speakers tend to struggle with literacy compared to monolingual speakers. This is because reading is a complex process that requires many skills. These skills include phonological and phonemic awareness. However, there are methods for strengthening these skills

in children, such as engaging them in book-sharing activities, exposing them to sounds of the language through conversation, and encouraging the development of reading.

Theories and Benefits of Bilingualism

Those interested in bilingualism have often wondered if it becomes easier to learn language once an individual is proficient in multiple languages. Researchers have examined this question and created theories that describe the cognitive development of bilingualism. The theories of bilingualism include the balance theory, common underlying proficiency, threshold theory, and the linguistic interdependence hypothesis. While examining the process of bilingualism, researchers have identified multiple benefits of speaking two languages. The benefits of bilingualism include increased cognition and increased intercultural competence.

Theories of bilingualism. One theory that was previously used to describe bilingualism is the balance theory, which is also known as the separate underlying proficiency (SUP) model. This theory states that languages are held separately in the mind. It is believed that when an individual increases competency in one language, the competency of the second language diminishes. This belief assumes that the content and skills learned in one language will not transfer to the other language (Bilash, 2009). According to SUP, it will be very difficult for a child to learn a language in addition to their primary language. One way to visualize this idea is by picturing the head of a language learner. Inside the brain the person has two language "balloons", one for their native language and one for the second language. Both balloons can be altered to become larger or smaller, reflecting changes in proficiency. Yet, when the size of one

language changes, so does the other. One language may grow, but the other has to become

smaller, and vice versa (Baker, 1996).

However, the balance theory has been rejected by research. Multiple studies suggest that

when children are immersed in a bilingual program, proficiency in L1 and L2 develop

simultaneously. Research suggests, simultaneous development of languages occur because

linguistic competence is transferred among languages (Leafstedt & Gerber, 2005). This means

that children have an unconscious understanding of grammar and are able to transfer their use

and understanding of L1 to L2. In other words, children can learn more than one language at a

time, so neither language is restricted by the other.

Yet, the balance theory supports the fact that children have been observed to use less of

L1 when learning L2. The theory would describe this situation as occurring due to the fact that

knowledge of L1 does not help the child acquire L2.

Another theory is common underlying proficiency (CUP) model, which contrasts the

balance theory or SUP model (Bilash, 2009). This idea is based on the principle that bilingual

speakers have a central operating system for both languages. Although, the languages are still

somewhat separate, there is an underlying cognitive process that produces the languages. The

common cognitive processes that bilingual speakers develop their language proficiencies from

include literacy, abstract thinking and problem solving (Baker, 1996).

The CUP model has been further described by Baker (1996), who created an iceberg

analogy to represent it. This model is represented by the image of two icebergs that appear over

the surface of the water, which are connected below the surface of the water. In this image, the

icebergs symbolize the first and second language. The fusion of the icebergs express the idea that

the two languages do not function separately, but they operate through the same operating

system. Because languages operate through the same system, it becomes easier to learn

additional languages once you are proficient in multiple languages (Baker, 1996).

Baker proposed that there are six parts to the CUP model. First, it did not matter which

language the person was using, but thoughts (talking, reading, writing and listening) come from

the same central engine. Further, when a person speaks two languages their thoughts are all

integrated. Second, people have the capacity to process two or more languages. Third,

information processing skills and educational attainment can be developed through two

languages and cognitive functioning in school achievement can occur in either a monolingual

setting, or bilingual setting. Fourth, the language that the student uses in the classroom needs to

be well developed in order to process the cognitive challenges that may arise in the classroom,

such as learning new information. Fifth, children are made to operate insufficiently with their

second language. Children will struggle and the quality of their language in which they develop

from the classroom will be weak. And finally, when one or both languages are not functioning

fully, the cognitive functioning and academic performance may be negatively impacted.

Next, the threshold theory evolved from the CUP model. The threshold theory describes

the relationship between cognition and the proficiency in bilingualism (Bilash, 2009).

Bilingualism is categorized into a hierarchy with three levels. The lowest level of bilingualism is

known as limited bilingualism, with the next most proficient level known as less balanced

bilingualism, and finally, balance bilingualism. This theory states that there is a positive

correlation between level of bilingualism and cognitive advantage. It associates greater cognitive advantages with students who have higher bilingual proficiencies.

The theory declares that bilingual speakers begin as limited bilingual speakers. Students in this stage experience low levels of competence in both languages, and cognitive disadvantages. Baker (1996) defined these cognitive disadvantages as difficulty in school curriculum. Increased bilingual proficiency results in the next stage of less balanced bilingualism. In this stage, students have age appropriate competencies in one, but not both of the languages. Additionally, they do not have any cognitive disadvantages or advantages. In continuation, the final level is balanced bilingualism. Balanced bilinguals develop age appropriate competence in the language in which they struggled, resulting in age appropriate competence in both languages. However, unlike before, these students have cognitive advantages to their bilingualism. These cognitive advantages include increased deductive reasoning in math (Baker, 1996). These ideas are commonly represented as three story house with two linguistic ladders (L1 and L2) on each end. The floors represent each cognitive threshold starting with limited bilingualism, progressing to less balanced bilingualism and ending with balanced bilingualism (Baker, 1996).

A criticism to the threshold theory is that it is difficult to define what appropriate levels of language proficiency are for each threshold. Students develop languages differently, so it is difficult to infer the proper language proficiency stages across individuals.

Similarly, the linguistic interdependence hypothesis also describes bilingualism. It states that competence in L2 is dependent on the level of competence already achieved in L1. The more

developed L1 is, the easier it will be to acquire L2. In addition, Bilash (2009) states that there are different facets of language, which are easier to learn than others. He identifies social language and academic language. Social language is used in everyday conversations, and is informal. It is often accompanied by nonverbal support. On the other hand, academic language is more formal and confirms to societal standards. Academic language is typically used in school and work settings, and requires higher levels of thinking. Bilash (2009) further proposes that it is easier to develop social language proficiency than it is to develop academic language proficiency. This hypothesis also states that languages carry different connotations for words depending on the context that they are used in. For example, the word "mean" can have a different connotation depending on if it is used in a social or academic setting. In the academic setting, the word can be used to describe math and in a social setting, "mean" can be used to describe an unkind person. It is concluded that there can be confusion with words that are used in both conversational and academic settings (Bilash, 2009).

Benefits of bilingualism. As previously stated, there are many benefits of bilingualism. These benefits include increased attention and increased intercultural competence.

One advantage of bilingualism is that it is associated with increased cognition. Specifically, it has been found that bilingual individuals have increased attention compared to monolingual individuals (Friesen, Latman, Calvo, & Bialystok, 2015). The study conducted by Friesen et al. (2015) involved 53 young adult monolingual and 56 bilingual speakers that participated in a visual search task. The task involved determining whether a certain shape was present among distractor shapes. Results revealed that bilingual speakers were significantly

faster than monolingual speakers in identifying the target shape in more difficult situations when an increased number of distractor shapes were present. This outcome suggests that bilingual speakers have better control of visual attention than monolingual speakers.

Additionally, individuals who are bilingual experience increased intercultural competence than those that are not bilingual. When children learn a second language, they often learn about the culture associated with the native individuals that speak that language. Chamberlin-Quinlisk and Senyshyn (2012) describe many ways that the process of becoming bilingual exposes children to varied lessons in intercultural education.

In contrast to the suggested bilingual advantages that have been studied, additional studies have determined that the advantages may be due to hidden demographic factors and not bilingualism (Antón, García, Carreiras, & Duñabeitia, 2016).

This idea was supported by a two part study that assessed the performance of 24 elderly Basque-Spanish bilingual speakers and 24 elderly Spanish monolingual speakers on verbal and numerical Stroop tasks. During this task participants were asked to name the colors written on a card, and not the color of the card, which was different from the written word. Results indicated that bilingual and monolingual speakers did not have statistically significant differences in their speed or ability to recite the written words. Similarly, another task was conducted with a numerical Stroop task. This task asked participants to recite the largest number from 1-9 which they saw on a screen. The screen had multiple numbers, and some appeared visually larger than others, but the participants had to focus on reciting the number that was highest in numerical value. Results of both tasks indicate that monolingual Spanish speakers and bilingual Basque-

Spanish speakers did not have differences in their reaction times, meaning that they both have similar cognitive capacities (Antón et al., 2016).

Furthermore, the study examined 70 elderly Basque-Spanish bilingual speakers that varied in proficiency levels of L2 (Basque, which ranged from very low to fluent). Participants followed the same procedures used in the previous experiment. Results indicated that there were no significant effects of the fluency of the second language on the cognitive tasks (Antón et al., 2016). This supports the idea that bilingualism may not account for the cognitive benefits that many people believe it does, and that there may be other factors resulting in the increased cognitions that many bilingual speakers are thought to have.

Furthermore, a study conducted by Paap, Johnson, and Sawi (2015) attributed the differences in cognitive status of monolingual and bilingual speakers to be due to immigration status, educational level, and socioeconomic status. They proposed that these differences among individuals accounted for variances in cognitive status in research studies. This belief is held to disassociate bilingualism speakers with having increased cognitive ability.

Theories on bilingualism confirm the popular belief that it becomes easier to learn additional languages after becoming proficient in multiple. A variety of theories have been proposed to describe how people cognitively develop the skills of bilingualism. Some theories have been proven wrong, such as the separate underlying proficiency model. This theory states that it is difficult for an individual to learn a second language because as competency in one language increases, the competency of the second language should diminish. Additionally, when bilingualism is achieved, the speaker will find advantages in knowing a second language. These

advantages include increased attention, and increased intercultural competence. However, a few studies have rejected the idea that bilingualism relates to increased cognition.

Factors Influencing Second Language Acquisition

As previously mentioned, strong early literacy skills are important in developing language acquisition. However, there are additional factors that impact the outcomes of second language acquisition. These outcomes include external and internal factors. External factors are circumstances that the learner cannot control. These factors include the environment that the language learning occurs in, community support to learn a second language, social prestige of L2, and variances among the two languages, such as in speech sounds. Internal factors are those that the language learner personally contributes to their learning situation. Internal factors that impact second language acquisition are comprised of age at which the speaker is exposed to the language, motivation to learn a second language, and language learning aptitude.

External factors. One external factor that influences second language acquisition is the environment where language takes place. The two environments that children most likely are exposed to L2 are home and school. Studies have been conducted to examine how these environments impact language acquisition. A study conducted by Place and Hoff (2011) examined the amount of speech provided by native speakers, the number of different speakers providing input, and frequency of language mixing on the development of bilingual skills in children. The study involved 29, 30-month-old children who were exposed to Spanish and English. Language diaries were kept by parents to assess the bilingual skills of the children. Results suggested that bilingual children that were in situations with maximal input from native

speakers, and surrounded by multiple people that spoke the language, then they had better bilingual outcomes. There was no evidence to support language mixing as a negative or positive factor (Place & Hoff, 2011). These findings indicate that interaction with native speakers and exposure to speakers of L2 can explain variations in second language acquisition. Specifically, increased interaction with native speakers and increased exposure to speakers of L2 are beneficial to children acquiring a second language.

Similarly, support from the community to learn a second language can impact the performance of learners. A study examined 282 Singaporean children whose native languages were Chinese, Malay, or Tamil, and who were learning English. It was concluded that the community had an impact on children's L2 vocabulary, because the community wanted to support the spread of the language within the broader community (Dixon, Zhao, Quiroz, & Shin, 2012).

Also, the social prestige of a language influences second language acquisition of that language. It has been found that languages that hold higher levels of prestige are more successfully developed as bilingual languages in children than languages with lower social prestige (DeCapua & Wintergerst, 2009).

Finally, differences and similarities in the two languages spoken by the learner can account for variability in learning. In terms of speech sounds in both languages, research has found that it is easiest to learn a second language when it has sounds that are similar to sounds in the speaker's first language (Antoniou, Liang, Ettlinger, & Wong, 2015). One study examined the ability for Mandarin-English bilinguals and English monolinguals to learn an artificial

vocabulary words (Antoniou et al., 2015). Results found the Mandarin-English bilingual speakers outlearned the English speakers in the new vocabulary. These Mandarin-English speakers learned words the best when they had sounds that were similar to their L1 (Mandarin), such as retroflex, compared to words with English-like fricative voicing (L2) (Antoniou et al., 2015).

Internal factors. In addition to the external factors mentioned above, there are also internal factors that impact second language acquisition in learners. These factors include age, motivation to learn and language learning aptitude.

The age at which language learners are exposed to language is a factor that influences the development of their second language. Research supports the idea that the more frequently language learners are exposed to a language, the more competent the learners become (Place & Hoff, 2011). It has been found that typically developing bilingual children that hear English 60% of the time or more perform equivalently to their typically developing monolingual peers (Cattani et al., 2014).

It has been found that a child's motivation to learn a second language impacts their development of the language. Specifically, when children are more motivated to acquire a language, they will become skilled in it more quickly than children that are not motivated to learn L2. One study found that a child's intrinsic motivation was the strongest factor of a learner's motivation and self-confidence to learn a second language, which leads to increased L2 achievement (Pae, 2008).

Similarly, language learning aptitude is another factor that has been linked to second language acquisition. Yilmaz and Granena (2016) found that aptitude levels relate to a child's ability to acquire a second language. This study involved 48 L2 English learners that participated in three oral production tasks where they received feedback on their indefinite article production based on their assigned group (explicit, implicit, or no feedback). Results found that explicit language aptitude, when combined with explicit corrective feedback, is related to increased performance in L2 (Yilmaz & Granena, 2016). It is suggested that this occurs because explicit corrective feedback requires cognitive mental processes that are at higher levels than those that receive implicit, or no feedback when learning a language.

There are many factors that influence second language acquisition. External factors that impact language acquisition include environment that the language learning occurs in, community support to learn a second language, social prestige of L2, and variances among the two languages, such as in speech sounds. Internal factors that influence second language acquisition include age at which the speaker is exposed to the language, motivation to learn a second language, and language learning aptitude.

Conclusion

Multiple theories on bilingualism suggest that the learning environment is important for second language learners. Future studies should examine the different methods for teaching second languages in the classroom. For example, a study on the use of technology as a method for teaching languages to second language learners would be beneficial. As mentioned previously, students learn a second language best when they are motivated, so incorporating techniques that are fun for the students will likely yield better outcomes when learning a second language. Additionally, children are continually exposed to technology in today's world, so the use of technology as a form of teaching a second language may be helpful and lead to increased student motivation to learn the language, and increased acquisition of the language.

Additionally, a reaction to the studies of indicating that bilingual speakers may fall behind in the classroom should occur. Schools should be sure to educate all of their teachers on how they can best accommodate and teach students who may be struggling with the language used in the classroom. Teachers should be aware of red flags for students do not comprehend what is being taught, or happening around them, because findings indicate that second language learners can struggle cognitively if they do not understand the language used around them.

Although research is not consistent on whether individuals who are bilingual experience increased cognition compared to monolingual speakers, it is important continue to investigate these cognitive differences between these speakers. More research is needed in this area. Specifically, additional studies should be conducted to examine how a wide range of cognitive skills are impacted before, during, and after language acquisition in monolingual and bilingual individuals using a longitudinal design. The population of bilingual individuals in the United

States will continue to increase due to shifting demographics, and bilingual educational programs will remain an important component to schools across the nation.

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