

# Literature Review on Aphasia and Bilingualism



## Definition of Bilingualism

Bilingualism exists in every part of the world, in every society and class. Globalization makes more and more people evolve in the bilingual or multilingual environment. In addition, people move to different countries seeking better employment opportunities, new life, and challenges. Therefore, bilingualism has become common for a substantial part of people. Although bilinguals, as a rule, are treated as those who speak and understand two or more languages, they usually have a better knowledge of only one language. In many countries of the world, bilingualism is a norm. It initiated the appearance of a term ***ambi-bilingualism***, which means that a person can equally well use two languages in almost every situation. There is a link between bilingualism and aphasia because the disease develops only in bilingual people. The chapter analyzes bilingualism in terms of its advantages and disadvantages and studies its main types and causes. In addition, it explores aphasia, in general, and bilingual aphasia, in particular, making emphasis on the grammatical errors.

People have different connotations for the word ***bilingualism***; therefore,



it is difficult to find the best one among the numerous definitions of the notion. Choosing a single definition is the cause of debate. One of the earliest definitions was provided by Bloomfield (1935). He asserted that bilingualism was a natural control of two different languages. However, Bloomfield's definition was too narrow; it needed further improvement as, according to it, only a few people around the globe could be called bilingual. Haugen (1956) suggested that it is "the point where a speaker can first produce complete meaningful utterances in the other language" (p. 7). At the same time, Weinreich (1953) claimed that bilinguals alternate between two languages but do not use them simultaneously. Nevertheless, Grosjean (1982) gave a broader definition of the bilingual phenomenon. He concluded that bilingualism begins as soon as a person can express thoughts in the language that is not his or her native one. Later, Grosjean (1982) improved the definition claiming that it was the ability to use both languages simultaneously. Generally, bilingualism refers to people who use two or more languages in their daily lives (Grosjean, 1998). It is also defined as "the use of two languages by an individual or speech community" (Ellis, 1994, p. 694). At the same time, Bhatia and Ritchie (2012) state that almost two-thirds of the world population are bilingual.

According to Lambert (1975), there are different forms of bilingualism, such as early, late, and adolescent bilingualism. However, bilingual people do not necessarily have a perfect knowledge of all the languages. They use either of languages for different purposes while communicating with different people (Eviatar, Leikin, & Ibrahim, 1999).



Bilingualism is beneficial for both children and adults (Bialystok et al., 2004; Prior & MacWhinney, 2010). However, Bialystok, Craik, & Freedman (2006), and Bialystok et. al. (2005) rejected any advantage of bilingualism. As bilingual speakers know several languages, they can participate in their native culture and the culture of other acquired languages. Languages provide people with access to a wide range of countries. They help people develop their worldview and become a part of other societies. Bilingualism enhances people to change their way of life by traveling a lot and communicating with the others.

## Types of Bilingualism

Scientists have made numerous attempts of classifying bilinguals by age, fluency, competence, context of language acquisition, and hypothesized mechanisms of processing. In addition, it is essential to classify such people according to the social, cognitive, and linguistic dimensions.

Early and late bilinguals are classified according to their age of language exposure. Early bilingualism means that a person has learned more than one language during the early years of life. Late bilingualism presupposes the language acquisition when a person is older than eight (Bhatia and Ritchie, 2012). These types of bilingualism are also distinguished on the basis of the attainment of linguistic competence. In such a manner, early bilinguals attain a native-like competence in two languages while late bilinguals are non-native speakers of the second language.



Sometimes, early bilingualism is divided into two groups: simultaneous and successive one. Simultaneous bilingualism means that a person learns two or more languages simultaneously. As a result, he or she becomes a strong bilingual. Successive early bilingualism occurs when a child has only partially acquired the first language and begins to learn one more language in early childhood. It may also lead to strong bilingualism, but some time is needed to learn the second language. Late bilingualism means that a person has learned the second language during adolescence or adulthood. In most cases, late bilinguals use experience in order to acquire the second language.

Natural bilinguals have grown up in a bilingual environment and have not been trained to learn two languages. At the same time, secondary bilinguals are taught later in life. There also exist balanced bilingualism, dominant bilingualism, and semilingualism. The main difference between these types lies in the relationship between the language proficiency and fluency. Pohl (1965) classified bilingualism into two types: horizontal and vertical. Horizontal bilingualism is when two languages have an equal status in the cultural and family life of a person. Vertical bilingualism means that a dialect is used together with another language.

Balanced bilingualism means that a person is proficient in both languages; however, it rarely happens. This term means that people may have almost the same proficiency in both languages. Dominant bilingualism describes a speaker who has an increased proficiency only in one language. In such a case, one language is dominant (Eviatar, Leikin, &



Ibrahim, 1999). A dominant language is used in various situations while the second language is used only in a certain context or with certain people. Semilingualism means partial bilingualism when a speaker has a low level of proficiency in both languages. This type of bilingualism is typical for children, who are not linguistically mature enough to be competent in two languages (Cummins, 2009).

Weinreich (1953) defined compound, coordinate, and subordinate bilinguals. The scientists made this classification on the basis of the linguistic code organization and storing. Compound bilinguals have two sets of linguistic codes. Such people store these codes in one meaning unit. It means that a person has a single meaning system for the words of the first and second language. Coordinate bilinguals store and organize each linguistic code separately in two units; they have two systems of meanings for the words. Therefore, a person knows one word for the first language and another word for the second one.

The classification of bilinguals that takes into account the language usage and cultural diversity divides them into the folk and elite bilinguals. However, they can be classified according to other social variables. The social status of bilingual people caused the appearance of elite and folk bilinguals. The first ones prefer speaking a dominant language only in a certain society as this proficiency gives them additional value and benefits within that social group. Vald's and Figueroa's (1994) further extended this classification by differentiating between the elective and circumstantial elite bilinguals. On the other hand, the folk bilinguals usually belong to



the language minority community. Their language does not have a high social status. Bilinguals may also be divided into additive and subtractive ones. Additive bilinguals can improve their second language not losing the first language proficiency. However, subtractive bilingualism tend to lose the skills of the first language while learning the second one. It is essential to remember that most of the dimensions mentioned above may interrelate. It is extremely difficult to set clear boundaries between different classifications and types of bilingual people.

## The Main Causes of Bilingualism

The literature analysis has shown that there are different causes of bilingualism. The first one is migration. According to Fasold (1987), when people come to a foreign country, they should adapt to its language environment. As a result, they learn a new language and become bilingual. In many cases, they communicate with the foreigners in the host language but prefer a native one while communicating with friends. The second reason is the culture and education. People learn a foreign language in order to get an education or understand the foreign culture. Students travel to other countries seeking a better education or pursuing their studies. As a result, they learn foreign languages. In the modern society, being bilingual means being a well-educated person.

The next reason for bilingualism is border areas. People, who live in the border areas, usually contact the citizens of the neighboring country. Therefore, they become bilingual due to the geographical location.





Fasold (1987) gave an explanation of why the sociocultural groups tended to live in the imposed areas rather than in the selected residence areas. Another essential reason for bilingualism is religion. In many cases, religion influences people's decision to learn a new language.

## Advantages and Disadvantages of Bilingualism

Some scientists claim that being bilingual has numerous advantages to people of all ages (Bialystok, 2002; Bialystok & Martin 2004; Costa, Hernandez, & Sebastian-Gallas, 2008; Bialystok, Craik, Green, & Gollan, 2009; and others). Children who know two or more languages easily grasp the language structure and have an increased ability to learn a new language. In addition, they understand the literacy components more quickly than the monolingual individuals do (Bialystok, 2002). It has been found out that the improved abilities of bilingual children go beyond language learning. They have a more developed cognitive flexibility and better attention control. Moreover, bilinguals are able to be extremely attentive while inhibiting irrelevant information and switching between the solutions to a problem (Bialystok, Craik, Green, & Gollan, 2009). However, bilingual children do not have any advantages over the monolinguals in terms of functions that depend on knowledge representation, for example, drawing logical inferences and problem encoding.



Bilinguals tend to develop the mechanisms for separating two or more languages. It means that the fluency in one language does not intrude into the use of another language. Byers-Heinlein and Werker (2009) spoke about the developmental advantages related to the word learning among the bilingual children. Bialystok, Craik, Klein, & Viswanathan (2004) and Kav, Eyal, Shorek, & Cohen-Mansfield (2008) researched the cognitive advantages of being bilingual in older age. However, Bialystok, Craik, Green, & Gollan, (2009) claimed that the cognitive control advantages are accompanied by some disadvantages, for example, in terms of the lexical competence and access. According to Grosjean (2008), bilinguals may experience some difficulties in the word choice, which results in a slower word retrieval.

Therefore, the experience of speaking in two languages substantially influences the cognitive and linguistic abilities of a person. However, this influence is believed to have both advantages and disadvantages depending on the situation and task to be performed by bilinguals. The effects of bilingualism may cause some difficulties to monolinguals. Therefore, further research is needed to understand this issue better.

## Definition of Aphasia

Aphasia is defined as an acquired language disorder that results from brain damage. It is related to a failure to formulate, get, or decode the random language symbols. The disorder is usually acquired in adulthood (Holland, 2006). It has been found out that the bilingual aphasics do not





always demonstrate the similar language disorders with the same severity degree in two languages. Therefore, it is considered ethically unacceptable to assess patients with bilingual aphasia in only one language (Paradis, 1995).

One of the most common causes of aphasia is a stroke. It is closely related to the person's lifestyle, family history, high blood pressure, and other problems. Lifestyle issues associated with the development of aphasia are smoking, increased use of cholesterol, fatty diet, and drinking. Aphasia is usually caused by the damage of the brain part that is responsible for the language. The brain damage may result from the head injury, stroke, brain tumor or infection, dementia (Eviatar, Leikin, & Ibrahim, 1999). The damages of this kind disrupt or destroy the pathways between the language production and comprehension. In most cases, the damage affects the left hemisphere; however, the right one can also suffer.

The left hemisphere of the brain controls most of the language processing mechanisms. Consequently, any damage to this hemisphere negatively influences the written, verbal, and gestural functions of a language. At the same time, the right hemisphere is also responsible for certain aspects of the language processing. Therefore, any damage can result in the loss of some functions. The level of impairment is determined by the location, size, and depth of the incident. It may lead to a partial or total loss of the ability to understand or use the language.



The scientists classify aphasia into different types that depend on the affected brain area. However, the classification terminology of aphasia has given rise to the increased debate. The disease may exist together with the other cognitive abilities. It is a lifelong condition that may occur in children but is more common in the older individuals.

There is a belief that bilingualism may be a useful tool that assists patients in recovering from aphasia. The issue of bilingual aphasia is interesting for many scientists due to the differential neural organization of the language and processing of the additional languages. It is known that in polyglots, the left hemisphere is dominant (Eviatar, Leikin, & Ibrahim, 1999). However, Vaid (1983) claimed that the second language is located in the right hemisphere in the case it is learned in the post-pubertal age.

## Assessment of Bilingual Aphasia

Bilingual aphasia is a form of aphasia that affects the languages spoken by a bilingual person. Abutalebi and Green (2007) suggested that the key factors that contributed to bilingual aphasia were the exact number of languages that a person knew and the order of their acquisition. They are influenced by the use pattern and expertise in each language before the disorder onset. Therefore, the intensiveness and type of the disorder, as well as education and literacy of a patient, are closely related to the functional outcomes of bilingual aphasia.

The scientists claim that a person may lose proficiency in one language



because the languages are represented in different areas of the brain. In the case of a brain damage, only one language (represented in this area) would suffer while the other one would not (Abutalebi & Green, 2007). There is also a belief that the language system of control and representation questions the damage result. This idea is supported by the data of functional or normal bilinguals. The language fluency may be lost due to the increase in the activation threshold. The damage of the right hemisphere results in the same cognitive-communication deficit patterns in both monolinguals and bilinguals. Nevertheless, the bilinguals with the left hemisphere damage face the increased risk of aphasia (Paradis, 2004).

There are numerous researches concerning bilingualism, aphasia, and their peculiarities. However, there is still a need for the further investigation of their management techniques and, in particular, the most vulnerable languages, target language, most responsive to treatment, treatment efficiency, and other issues.

## Grammatical Errors in Bilingual Aphasics

Grammatical issues in aphasics depend on the structure of the language system. When this system undergoes stress, it breaks down at the junctures that are allowed by the system (Paradis, 1988). Aphasics tend to represent dissociations between the noun and verb retrievals. According



to Alajouanine (1963), in the case of vulnerability of inflectional morphology, a language with this feature will suffer agrammatism.

According to Almagro, Sanchez-Casas, and Garcia-Albea (2003), aphasics may have substantial difficulties while producing nouns orally in both languages. In addition, bilingual aphasics tend to face some challenges with producing irregular forms. Many aphasics make mistakes in the time reference morphology. They have difficulties in substituting the past with present verb form. Sometimes, such speakers show omissions but only in the languages, in which they do not result in non-words. Referring to the present, the aphasics' moment of speaking and event tend to coincide. Nevertheless, when they want to use reference to the past, they need to hook up the moment of speaking to a certain period in the past. It may be a very recent past moment or something that happened long ago. However, there should be a reference to the past in any case. For such people, the future is unknown, and they are never sure about it. They find it difficult to link the moment of speaking to an event that will happen in the future. Therefore, there is no need in discourse linking. The agrammatic speakers may be impaired in producing the temporal lexical adverbs. They show poor performance in the production of aspectual adverbs and temporal lexical adverbs.

The grammatical aphasia disorders depend on the language structure. Their disclosures, however, are different in different languages. The grammatical disorders of bilingual aphasics can be clearly observed only at the surface level. However, they have a universal nature that follows



certain rules while aphasia impairs all grammatical aspects at different severity.

Goodglass and Kaplan (1983) divided all the grammatical impairments in the aphasia patients into two categories, including paragrammatism. Paragrammatism refers to the substitution errors. It is typical for “fluent patients suffering from moderate to severe word-finding problems” (p. 10). On the other hand, agrammatism is usually defined as a “marked reduction in syntactic complexity and phrase length” (p. 11). Agrammatic aphasics have a non-fluent speech that mostly contains content words. However, they usually omit function words and grammatical morphemes. Thompson, Choy, Holland, and Cole, (2010) state that, in the spontaneous speech of bilingual aphasics, the verb production is impaired while the noun production is spared. The studies show that the patterns of agrammatic errors are opposite to the ones displayed by the fluent aphasic speakers. They also reported a decreased performance in using the past forms of the verbs. It means that the errors made by the fluent aphasics may result from the other underlying deficits.

In an agrammatic speech, a bilingual omits many function words; the issue is closely related to the type of the sentence construction. It has been found out that the agrammatic speakers tend to omit the subject pronouns while spontaneously expressing their thoughts. It is related to the verb implementation. However, it is essential to make a subclass distinction of the function words; the agrammatic speakers seem to be sensitive to this distinction (Bennis, Prins, & Vermeulen, 1983).



# Conclusion

Bilingual aphasics tend to make numerous grammatical errors. The most typical ones are related to the use of verbs. The literature review has shown that many contemporary scientists are interested in bilingualism and aphasia. Bilingualism has been investigated since the beginning of the previous century and has become the focus of numerous studies. The abundance of classification makes it difficult to identify the type of bilinguals. Further research is needed in order to investigate the nature of aphasics and provide a comparison of the errors made by the non-aphasic bilinguals.

