

## PSYCHOLOGICAL AND EDUCATIONAL IMPLICATIONS OF BILINGUALITY

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**ABSTRACT.** The hereby paper attempts at analyzing the effects of bilinbuality upon the cognitive development of children and mainly upon their meta-linguistic abilities and executive functions. The article sets out to explore the cases when bilinguality exerts positive or negative consequences upon intellectual activity as well as when bilinguality has no significant consequences upon it. The approach shows that whenever a mother tongue (even in the case it is the language of a minority) is well mastered by children, bilinguality contributes to the improvement of their cognitive activity.

**KEYWORDS:** quality, performance, standard, well-being, value.

### **Introduction**

Bilinguality is a phenomenon that occurs in all countries, including Romania. Although the issue of bilinguality has been much studied, nonetheless no unanimously accepted definition has been formulated. Bilinguality may be conceived as a continual dimension along which bilingual individuals are represented, in accordance with their level of mastering and use of two or several languages. At the one end, we find the perfect bilinguals (or ambi-linguals), while, at the opposite end, we find those who display, at least, one of the verbal abilities (understanding of speaking, speaking, reading, and writing) at a minimal level.

### **Influences of bilinguality upon cognitive development**

Various psycho-linguistic researches have analyzed the consequences of bilinguality upon cognitive development. Such studies may be divided in two large categories. Those having been carried out until 1960 emphasized a series of negative effects of bilinguality, with their authors setting forth the terms of “linguistic handicap” or “mental confusion” determined by bilinguality. Accordingly, they concluded that bilingual students exhibit poorer school results, a lower IQ, and varied difficulties of social adaptation than the students who employ a single language. The subjects of these researches were mostly children belonging to immigrant families, with a decreased social and economic status. Starting from the results of such

researches, a series of members of the teaching staff in the U.S.A., Canada, and Europe continue to advise immigrant parents to abandon their mother tongue and use at home the language their children employ at school.

The first research that contradicted these opinions and underlined the positive effects of bilinguality upon cognitive development was carried out by Peal and Lambert in 1962 (according to Hamers and Blanc, 2000, p. 87). These scientists have resorted to two inter-dependent samples: an experimental group (including bilingual children in Montreal, who spoke English and French) and a control group, including children who spoke only one of these languages. The two groups were similar from the point of view of the age, sex, social and economic status of the families. Bilingual subjects got better results than the subjects belonging to the control group at several verbal and non-verbal intelligence tests. The authors explained the higher scores of bilingual children through a higher mental flexibility and easiness in developing concepts. These results have had an important impact upon the research in this field, a series of subsequent studies confirming and completing them.

A series of researches have analyzed the meta-linguistic abilities of mono and bilingual children. Such abilities, also identified as meta-linguistic awareness, allow the use of a language not only with a view to understanding and uttering verbal messages, but also with a view to becoming aware of the structure and functioning of the linguistic system. The prospection of this relatively new field of psycho-linguistic (the first studies came out during the 1970s) divides meta-linguistic abilities in phonemic, word, syntactic, and pragmatic awareness.

Göncz L. (2004, p. 79), who studied the influence of bilingualism upon the development of meta-linguistic awareness, chose as subjects pre-school children whose age ranged between 6 years old and 6 months old. The experimental group included bilingual children who spoke Serbian and Hungarian at home; the control group included children who spoke only Hungarian. Bilingual children were reported to have displayed better results in case of the tests examining their phonemic awareness. They succeeded in indentifying the phonemes of the words presented to them to a larger extent than monolingual children.

Another research (Göncz, 2004, p. 78) included Serbian pre-school subjects (5 – 7 years old) who were divided into three groups. Those belonging to the first group attended a French teaching kindergarten. Those included into the second group had learnt English for two or three hours weekly, while the children belonging to the third group did not learn any foreign language at kindergarten. The children included into the first two groups proved to have better results in case of the tests involving the identification of words' syllables. These children also exhibited a lower level of nominal realism. According to Jean Piaget, nominal realism represents children's tendency to consider that there is a close connection between a certain object and its appellation, in the absence of which the object could not have been nominated. The children who learn a foreign language in early childhood appear to understand more rapidly the fact that objects' appellations have an arbitrary character. Consequently, turning children's attention towards linguistic phenomena determines the development of their meta-linguistic awareness. Accordingly, immersion programs (attending a French kindergarten, in the hereby case) come out as more efficient than others.

Bialystok (according to Brooks and Kempe, 2012) required mono and bilingual children to decide whether the sentences presented to them were or were not grammatically correct. Certain sentences were incorrect, although they were semantically plausible (for instance,

“Apples growed on trees”); others were grammatically correct, but they expressed an impossibility from a semantic point of view (for instance “*Apples grow on noses*”). The results of the research have shown that bilingual subjects displayed a better capacity of neglecting significance with a view to focusing upon the grammar issue than monolingual children.

The out-coming data of such analyses emphasize the positive transfer that occurs between the two languages appropriated by a child. The two linguistic systems are not isolated, as a series of connections are established between them. The knowledge of a language has a lot of positive effects upon the acquiring and use of the other language as well as upon the general cognitive development. Besides, knowledge transfer should also be considered, as knowledge acquired owing to a certain language may be almost effortlessly transferred to another language (for instance, in the case children learn arithmetic calculation in a first language acquired, they also manage to calculate, without difficulty, in a second acquired language). Consequently, when children acquire the language of a minority they not only acquire that language, which is less frequently employed in their environment, but they also acquire cognitive concepts and abilities useful with a view to communicating and learning through the language of the majority (Yoshida, 2008).

Researchers were also eager to know whether the abilities in the linguistic field displayed by bilingual children become general and determine effects in other fields, too. Their attention focused upon the executive functions, which have been thoroughly analyzed during the last decades by cognitive sciences. For Zillmer and Spiers (according to Jordan, 2010), the term of executive functions is regarded as an “umbrella term”, which includes several cognitive processes and behavioural competences, such as: planning, mental flexibility, distribution of attention resources, working memory, and inhibiting control.

In order to examine executive functions in the case of pre-school children, researchers may employ DCCS test (Dimensional Change Card Sorting). At the beginning, children are required to classify a series of images depending on their colour (for instance, red and blue). During the second stage, they are shown the same images, yet, the criterion is changed and they are required to classify them depending on their form (for instance, circle and square). Small children exhibit difficulties when the criterion is changed. In the second stage, they still use to classify images depending on the criterion previously employed, although they are reminded the new rule. It appears that, with this type of tests, bilingual children get much better results than monolingual children of the same age. Such results set forth their mental flexibility (the capacity of changing the criterion, of adapting behaviour depending on the new requirements), attention control (a selective distribution of their attention upon the characteristics of the stimuli displayed), and inhibiting control (the inhibition of the previous answer), which are essential components of executive functions. Martin-Rhee and Bialystok (2008) explain the superiority of such functions in the case of bilingual children through the fact that they are compelled to change the language used for communication quite frequently, that they have to focus on the language employed in the present moment, and that they have to inhibit the use of the other language.

It appears that bilinguality, that is the acquiring and use of two different languages, implies the manipulation of two systems of symbols through two systems of rules. Such a fact has various positive consequences upon intellectual development:

- Children have to pay more attention to the manner they use a language in order to communicate, to analyze significance, to become aware of the differences concerning

grammatical structure, and finally to process data more accurately. These abilities are also transferred to other fields.

- Bilingual children become aware, more rapidly, of the fact that languages possess an arbitrary character; the connection between signified (for instance, an object) and significant (appellation) is perceived as less strong than in the case of monolingual children, determining the development of their abstracting ability.
- Bilinguality facilitates the development of the executive function, in general, and of mental flexibility, attention control, and inhibiting control, in particular.
- Bilingual children get better results than their monolingual mates at those tests involving divergent thinking and verbal creativity (Koh, according to Hamers and Blanc, 2000, p. 90).

Other researches did not identified differences between monolingual and bilingual children, asserting that the advantages or disadvantages determined by bilinguality depend on various factors; among them, the social and cultural status of the families and the child's degree of schooling seem to play a significant part. Bilingual children who do not attend school do not get better results at intelligence tests (Raven Progressive Matrices or Jean Piaget's conservation tests) than the monolingual children who do not attend school, while bilingual children who attend school get better results at such tests than their monolingual mates (Mohanty, according to Hamers and Blanc, 2000, p. 90). Bilinguality has positive effects upon intellectual development only in the case it is accompanied by an intense cognitive activity, as the one required at school.


Those who speak about the negative consequences of bilinguality support the idea that it determines a partial linguality. Semi-linguality or partial linguality represents the insufficient acquiring of the reading and writing skills in both languages, but does not involve a decreased communication skill in everyday contexts. Semi-linguality appears to negatively influence intellectual development.

The facts show that the researches concerning the effects of bilinguality upon children's intellectual development are contradictory. Although most of them emphasize positive effects, certain studies fail to notice differences between bilingual and monolingual children, while others reach the conclusion that bilinguality determines negative effects. Cummins (according to Hamers and Blanc, 2000, p. 95) consider that there are two explanations for such contradictory results: one regards the margins of linguistic competence, while the second one concerns the interdependence in development.

According to the conception regarding the margins of linguistic competence (Table no. 1):

- Linguistic competence in both languages should exceed an inferior margin, in order to avoid negative consequences upon cognitive development;
- Up to the second margin, bilinguality does not influence cognitive development positively nor negatively;
- In the case when the linguistic competence in both languages exceeds the second margin, bilinguality will have positive effects upon cognitive development.

**Table no. 1. Cognitive effects of the levels of linguistic competence**

<b>Linguistic competence</b>	<b>Type of bilinguality</b>	<b>Effects upon cognitive development</b>
 Superior margin	Additive: high competence in both languages	Positive effect
	Neutral: high competence in, at least, one language	Without effects
	Inferior margin Partial bilinguality: low competence in both languages	Negative effect

Interdependence in development is explained owing to the fact that the efficiency of acquiring the second language depends on the degree of competence in the mother tongue already attained by children at the time they start learning the second language (Cummins does not refer to children acquiring two languages simultaneously).

The importance of competence while employing mother tongue was shown by Skutnabb-Kangas and Toukoma (according to Hamers and Blanc, 2000, p. 93). The subjects of the survey were 10 years old Finish children, who immigrated with their parents to Sweden. In the case of the children who emigrated after the age of 10, the reading and writing abilities in both languages attained the same level as that of monolingual children in Finland or Sweden. In the case of the children who emigrated before the age of 10, these abilities displayed a decreased level. The researchers noticed that the acquiring of both languages depended on the level of mother tongue acquiring.

The conclusion of the authors asserts that, in order to thoroughly acquire a second language, children should display a high level of competence in their mother tongue. In the case when children master their mother tongue, they are able to acquire the second language without harming the knowledge of their mother tongue. Children transfer cognitive abilities acquired owing to their mother tongue to the language learnt subsequently and they further transfer again the cognitive abilities of the second language to their mother tongue.

### **Educational issues**

Although the educational issues of bilinguality should be connected with each particular case, two typical situations may be identified.

The first one implies that the child's mother tongue is the same as the country's official language and the language of the majority. Accordingly, family and/or school target the development of a successive, instructional bilinguality, which generally regards the acquiring of a language valued by the community (English, French, German, etc.). With this in view, different educational programs may be conceived, with the immersion ones apparently more efficient than others. Immersion may be carried out through the children's schooling, from an early age, in a language that differs from their mother tongue. Children are going to learn all subject matters or only a part of them in that language. The foundation of this type of acquiring a foreign language is the assumption that, at preschool or elementary school age, children acquire the foreign language the manner they learn their mother tongue. Despite such assertions, there are

researchers (Blanc, Dodson, according to Hamers and Blanc, 2000, p. 338) who claim that the previously mentioned principle is not accurate.

The second situation, frequently encountered, is the one where children's mother tongue differs from that of the majority in a certain country (it is the case, for instance, of the children that belong to indigenous populations or immigrant families). Cummins (according to Hamers and Blanc, 2000, p. 341) identified an educational model frequently employed in such circumstances. At home, these children learn their mother tongue, yet, at school, they learn the official language of the country they live in. Their parents are suggested to give up the use of their mother tongue at home in favor of the other tongue. In most cases, these children develop a successive, subtractive bilinguality. They acquire properly or less properly the language they learn at school and the competence in their mother tongue appear to decrease. These children generally have poorer results than their monolingual mates. Certain researchers consider that such a situation represents a sign of the children's cognitive inferiority, which is determined by bilinguality. Nonetheless, Cummins asserts that it is important to stop blaming bilinguality and discover the real pedagogical and social causes that determine their learning failure, while identifying viable solutions.

The results of a series of analyses show that bilinguality does not represent a drawback; on the contrary, it has various positive effects upon children's development, but becomes a real advantage only under specific conditions.

Long, Padilla and Bhatnagar (according to Hamers and Blanc, 2000, p. 101) show that students get better school results in the case when their mother tongue (which is not widely spoken within their community) is given value and becomes largely used at home as compared with the situation when their mother tongue is neglected in favor of the other language. A first condition accordingly requires that both languages learnt by these children should be given value within the community the children live in. In the case when one language is considered useless, or when children are suggested that the use of that language is shameful, children are going to drop employing that language and cease taking advantage of their bilinguality.

Another condition, closely connected with the first one, requires that both languages should be mastered by the child. A series of experiments have been carried out showing that through the improvement of the linguistic competences in the language of a minority, better results are obtained in the language spoken by a majority.

Modiano (according to Hamers and Blanc, 2000, p. 343), for instance, sets forth an experiment having occurred in Mexico, involving children belonging to the indigenous population the State of Chiapas. The children in this state learnt Spanish at school, their mother tongues being regarded as inferior languages. The children in the experimental group had learnt, for three years, both their mother tongue and Spanish. At the end of the program, these children displayed better results at writing and reading in Spanish than the children who learnt only Spanish.

“St. John's Valley” educational program addressed to children in the U.S.A, whose mother tongue was French. During the first five years at school, one third of the activities were carried out in French, the rest of the activities being taught in English. The children in the experimental group had significantly better results than those in the control group (whose mother tongue was also French), who were taught only in English. Besides, they also acquired writing and reading in French (Dubé, Herbert, according to Hamers and Blanc, 2000, p. 344).

## Conclusions

Under proper conditions, bilinguality has various positive effects upon children’s psychic development. Among these effects, the most significant are the following ones: the development of their meta-linguistic abilities (of phonemic, word, syntactic, and pragmatic awareness) and of executive functions (planning, mental flexibility, attention control, work memory, inhibiting control). Yet, in order that bilinguality displays such positive effects, linguistic competence in both languages should be quite high.

According to the results of the researches already carried out, a special attention should be given to the development of the linguistic competences in the mother tongue, although this may be the language spoken by a minority. The educational system of each country, in collaboration with children’s parents, will have to identify the most efficient measures capable of turning to good account children’s bilinguality.

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