

The influence of bilingualism on students' creativity

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Abstract

The ascendancy of the bilinguals over the monolinguals in expressing creative potential (Ricciardelli, 1992; Cushen, Wiley, 2011; Lee, Kim, 2010) is verified also for the language pair Ukrainian/Romanian, the present research considered seeking to identify the nature of the connection between bilingualism and creativity in the case of high school students, half of them native Ukrainian (speaking Romanian and Ukrainian) and half monolinguals (Romanian) that were the same age. Other checked variables were: the geo-residential zone, the scholar environment, gender structure of the compared samples. Secondly, it was established both the way that differences of the creative potential are connected with the biological gender of the subjects, and the effects of interaction between the two independent variables.

To measure the creative potential The Battery of Creative Thinking Tests (Stoica, Caluschi, 2006) was used. The results showed that bilinguals had better performances at all estimated elements: fluency, flexibility, originality and elaboration. The gender variable has an impact, but more limited and particular, that the linguistic one: girls prove creative potential for the elaboration's dimension, while boys are better to the dimension of fluency and ideation. Also results prove that, in case of combination between bilingualism and biological gender, influences are manifested only in elaboration. Therefore, both bilingual and monolingual girls use more details in their works, taking their bearing more in idea development and being more creative on this field, comparing to bilingual, respectively monolingual boys.

Keywords: bilingualism; fluency; flexibility; originality; elaboration.

Theoretical framework

The interdisciplinary and vast nature of research on bilingualism, as well as the constant emergence of new directions in studies on this topic, suggest a growing interest in this phenomenon, including among psychologists. In this case, the research began, according to the voices of experts in the field, with simplistic and naive aspects, the results of which demonstrated rather the negative nature of the influence of this phenomenon (Barac, Bialystok, 2011). Over time, approaches and methodologies have changed and refined, which has shown the opposite, that bilingualism is an advantage in child development (Bialystok, Barac, 2012).

Analyzing the pair bilingualism - monolingualism, it should be mentioned that the idea of an uncontaminated monolingualism is a fiction, because no language is immune to the influence of other languages, an influence that occurs due to various socio-cultural factors (Bialystok, 2001). As with linguists, the diversity and complexity of bilingualism has become exciting for psychologists. A simple enumeration can be illustrative. Bilingualism can be: natural, voluntary, decreed, institutionalized; simultaneously, successively; individual, collective, social; early, late; table, elitist / academic;

symmetrical, asymmetrical; incipient, receptive, productive; compound, coordinate; semilingualism, additive, etc. (Zoltan, 2008; Saramandu, Nevaci, 2009). Given the complexity of the issues involved in the phenomenon of bilingualism, which are mainly related to contextual factors (some bilinguals live in communities where the two languages are used in everyday life, for all areas, and others use the second language rarely and focused on the balance of the two languages (bilinguals are rarely equivalent in terms of acquisition and use of the two languages; usually one of the languages is dominant), the evaluation of bilinguals compared to monolinguals is discouraged by traditional and in the correct / incorrect terms. Thus, bilinguals may have vocabulary gaps in both languages, which would negatively influence performance in traditional assessments (Baker, 2006). The accelerated pace of change taking place in contemporary society puts us in a position to seek solutions to adapt to new situations as quickly as possible, which are built, largely, through creative, divergent thinking (Roco, 2004). Therefore, these aspects would be the applicative part of the phenomenon of creativity, which manifests itself in people's daily lives, even without them necessarily being aware of the process that takes place (Tan, 2007).

Lately, the interest in this phenomenon is constantly growing, so that studies aimed at creativity have inevitably reached the issue of bilingualism. The correlation of the two proved to be a positive one (Lee, Kim, 2011). One of the most important authors in the field, the American psychologist, Ellis Paul Torrance (1966), developed a paradigm, respectively a method for measuring creativity (Torrance Tests of Creative Thinking - TTCT), in which the factors of major importance are: fluency, flexibility, originality and elaboration. They were also targeted in the present study. Olivia Saracho (2012) develops, in one of her works, the theory of personal creativity. It defines this concept in terms of specific potential, obviously from an early age, before the socialization process has an impact. In the literature, from the category of factors considered to represent the creative potential, are highlighted: divergent thinking / production (generating logical alternatives that correspond to a given situation), fluency (fluency of thinking), flexibility, originality (ability to produce novelty), analytical ability (abstraction), the ability to synthesize (combining several elements to acquire a new meaning), as well as the ability to evaluate (Roco, 2004; Stoica-Constantin, 2004).

In the early stages of investigations into the effects of gender on creativity, the superiority of female subjects was reported (Boyle, 1987). The results of other research have been more nuanced, indicating that male subjects would perform better on components of creative thinking such as flexibility and originality, while female subjects would perform better in development (Ai, 1999). In one of the meta-analysis researches, it was shown that, in the case of 20 studies, out of the 24 targeted, bilingual subjects had higher performances in the case of tasks that appealed to divergent thinking, compared to monolingual subjects (Ricciardelli, 1992). It has also been identified that bilinguals show advantages in terms of performance assessed by the components of creative thinking, such as fluency, flexibility and elaboration, compared to monolinguals (Kharkhurin, 2007). Bilinguals possess at least two words for most objects and ideas, thus having several conceptual and phonological connections within their lexicon. Their responses to a concept activate a much more diverse and larger set of associations (Harding, Riley, 1993). This may also explain the ability of bilinguals to generate a greater number of ideas, compared to monolinguals, in the case of a creative task. The theory developed by Bialystok (2001) argues that

the advantages of bilinguals would depend not only on the fluency of the actual speech in the two languages in question, but rather on the acquisition of the second language during childhood, which would lead to the need to face a so-called "lexical competition", a cognitive challenge with formative valences.

Research design

Objectives

The present research aims to identify the link between bilingualism and creativity, in the case of high school students. We also looked at how, at this age, the gender variable can correlate with differences in creative potential. Based on the results of previous studies, we expect the performance of bilingual subjects to be significantly better in the creativity tests, compared to those of monolingual subjects. At the same time, we expect girls to have significantly better results in terms of elaboration, while boys' results will be significantly better in terms of fluency, flexibility and originality.

Hypotheses

The following general hypotheses are proposed for verification:

1. The performance of the subjects in the creativity tests will be influenced by the presence of bilingualism.

2. Performance on creativity tests will be influenced by the biological gender of the subjects.

3. There is an interaction effect of the variables bilingualism and biological gender on the performance of the subjects in the creativity tests.

Variables

Independent variable. In the present research, the independent variables used were:

1. Bilingualism, operationalized through the two levels, present and absent, the last level being considered monolingualism;
2. The biological gender, operationalized by the two expressions, masculine and feminine.

The dependent variable pursued was creativity, operationalized by the factors of creative thinking: fluency, flexibility, originality and elaboration.

Controlled variables. The following variables were checked:

1. geo-residential area (Suceava County);
2. school environment (students from two high schools);
3. gender structure of the compared groups (15 bilingual girls, 15 bilingual boys, respectively 15 monolingual girls and 15 monolingual boys).

Research methodology

Research plan

Participants: 60 high school students from the North-East region of Moldova, divided into two groups, Romanian speakers, respectively native speakers of Romanian and Ukrainian. The targeted students will be those who study at Rădăuți Technical College and Iașcu Vodă Siret Technical College, the bilingual ones coming from the localities: Brodina, Izvoarele Sucevei, Ulma, Milișăuți, Siret.

Tools and procedure

The measurement of the creativity dependent variable was done by applying the Test Battery for creative thinking (Stoica, Clauschi, 2006), consisting of five tests that address the most important factors of creative thinking, namely: fluency, flexibility, originality, elaboration and sensitivity to problems. Of the five tests proposed in this battery, only three were used, namely the tests of: Unusual uses (Stick), Improvements (School bench) and the Drawing test (Semidisc). The criterion on the basis of which these three tests were chosen was related to the factors of creative thinking tested, namely fluency, flexibility and originality in the first two tests and elaboration in the case of the last test, these factors being targeted

in previous research on the relationship between creativity and bilingualism (Lee, Kim, 2010).

Unusual Uses Test (Stick): "List as many uses as possible that could be given to an ordinary wooden stick with a bent end and a nail at the bottom." The image of the object will be shown and the timer will start for five minutes.

The Improvement Test (School bench), for which a board with the image of a classic school bench, of the Haretian type, will be displayed, stating: "look at this school bench and try to propose as many improvements, improvements as possible. could bring. Assume that the manufacturing company has no impediments and can make any changes and however many. Write short ideas, one below the other, without drawing them. " The timer will start for ten minutes.

Drawing test (Semidisc), with the representation of a half-disc with a diameter of 1.5 cm: ,, follows a drawing test, for which you do not need drawing talent; make as many and varied drawings as possible, each time including this half-disc; it can be the main element in the drawing or just an accessory; if necessary, you can use several half-disks in the same drawing. Title each drawing, but absolutely each, in the most original way possible. Please note that only drawings

that contain the semi-disc and are entitled will be considered ”.

The measurement of the bilingualism variable can be done by applying the questionnaire, with self-report. In its construction, the Linguistic Profile of Bilingualism was used as a model, a questionnaire with 19 items, based on self-reporting (Birdsong & et al., 2012).

Conclusions

Starting from the studies that capture the phenomenon of bilingualism, the contribution of this paper is to verify the ascendancy of bilinguals over monolinguals in expressing creative potential (Ricciardelli, 1992; Lee, Kim, 2010) and in the case of the Ukrainian-Romanian language pair. The hypothesis that anticipated the better performance of bilinguals in front of tasks involving divergent, creative thinking, compared to monolinguals, was also confirmed in the situation of some Ukrainian and Romanian speakers, in a voluntary, collective, natural bilingual context.

The importance of this last aspect is not to be neglected, given the existence of a very large diversity of bilinguals and bilingualism. In fact, most previous research recommends investigating groups of bilingual subjects as diverse as possible,

belonging to other cultures, than those already investigated. In addition, the environment of residence of bi- and monolinguals (rural) is a first in this type of research. The profile researches targeted predominantly urban subjects. According to contemporary data (Cushen, Wiley, 2011; Lee, Kim, 2011), the main result of the research, the difference in creative potential between the two groups compared, is due to the advantages of shaping, even early, two sets of linguistic logos for most objects and ideas. This means the possibility of activating a much more diverse and larger set of associations, ideational connections, including in the case of a creative task.

Although factors such as students' language skills or school performance were not controlled, we mention that the tests used express the creative potential operationalized by the degree of development of psychic features that would come into action in the case of creation, without understanding that the person in question created already or will certainly create (a phenomenon that could be blocked either by environmental factors or by the lack of other components of creativity). The research reconfirmed the incidence of the biological gender variable on the creative potential. Compared to other previous research, in the case of the

high school students in question, the influence of this variable proved to be significantly more limited, however: for the elaboration factor in the situation of girls and for fluency, in the case of boys. As a marginal, insignificant trend, however, the superiority of boys to the factors of flexibility and originality is present, which shows that the particularity of our result can be an effect not only of the state of affairs, but also of the relatively small group of subjects.

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