

## **BILINGUALISM-ITS IMPLICATIONS IN STRUCTURING MORPHOLOGICAL AND LEXICAL ABILITIES IN ROMANIAN LANGUAGE**

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**ABSTRACT.** This research is divided on two different sections: a theoretical and an experimental one. The theoretical background underlines the extension of the concept of bilingualism and its subtypes. A short description of the main psycho-pedagogical tool (PRGCRL) used during the research is also offered in this part of the study. The experiment is focused in establishing differences in acquiring grammatical and lexical abilities in the case of two categories of participants: bilingual and non-bilingual, with ages in the range 8-11 years old. The results underline the fact that bilingual children proved inferior morphological and lexical abilities in comparison with the non-bilingual ones. The research also focused on the way in which bilingual children can improve their linguistic abilities at morphologic and lexical level through intervention programs focused on morphological competence subcomponents. This research section includes two case studies.

**Keywords:** bilingualism, coordinated bilingualism, sub-coordinated bilingualism, composed bilingualism, lexical abilities, morphologic competence.

**ABSTRAKT.** Zweisprachigkeit- Ihre Auswirkungen an Gliederung der morphologischen und lexikalischen Fähigkeiten in der Rumänischen Sprache-Diese Forschung ist in zwei verschiedene Abschnitte geteilt: ein Theoretischer- und ein Versuchsteil. Der theoretische Hintergrund betont das Konzept der Zweisprachigkeit und ihre Untergruppen. Es wird in diesem Teil auch eine kurze Beschreibung gegeben über den Haupt-psycho-pädagogischen Hilfsmitteln (PRGCRL), die während der Forschung in dieser Studie benutzt werden. Das Experiment ist versucht Gegensätze zu ermitteln bei dem Erwerb von grammatikalischen und lexikalischen Fähigkeiten im Falle von zwei Teilnehmerkategorien: zweisprachige-nicht zweisprachige Teilnehmer mit dem Alter zwischen 8-11 Jahren.

Die Ergebnisse betonen, dass zweisprachige Kinder erwiesen untergeordnete morphologische und lexikalische Fähigkeiten im Vergleich zu den nicht Zweisprachigen. Die Erforschung konzentrierte sich auch auf die Art und Weise in der, an einer lexikalischen und morphologischen Ebene durch Vermittlungsprogramme konzentriert auf morphologische Teilkomponente der Kompetenz, Kinder ihre sprachlichen Fähigkeiten verbessern können. Dieser Teil der Erforschung beinhaltet auch zwei Fallbeispiele

**Stichwörter:** die Zweisprachigkeit, geordnete Zweisprachigkeit, untergeordnete Zweisprachigkeit, zusammengesetzte Zweisprachigkeit, lexikalische Fähigkeit, morphologische Kompetenz.

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## 1. Bilingualism

### 1.1 Bilingualism-concept description

Bilingualism, for hearing persons, implies learning simultaneously two distinct linguistic codes, two distinct languages. This can be defined as two languages practice, definition from which derives the “bilingual acquisition” concept. This concept refers to child’s exposure to two distinct language, simultaneously and regular, after he was born and in his first year of life (De Houwer, 1990, 1995; Lanza, 1997; Quay, 2000 apud Attariba; Heredia, 2008).

Bilingualism, for hearing impaired persons means the consequence of introducing sign language in children`s education (Anca, 2000; Virole, 2004). This method is very common in the case of the hearing impaired child, it referring to the presence of two significant persons for the child and for his communication abilities development, one person using constantly in communication only the oral code and the other, the sign language code.

### 1.2. Types of bilingualism

Weinreich (1968 apud Susanne; Deuchar, 2001) has described the following two distinct types of bilingualism: coordinated bilingualism and composed

In the context of the coordinated bilingualism the two linguistic codes are acquired in distinct communication contexts. Thus, linguistic labels for a certain object are separately, distinctively stored, each of them keeping their own meaning. In these circumstances, languages present themselves as independent entities.

In the case of composed bilingualism languages are interrelated, the bilingual person proving one set of significances to which two distinct linguistic codes are connected. Having into consideration this dichotomist perspective it can be underlined the necessity of the third distinct bilingual category, the category entitled sub-coordinated bilingualism. In this situation is put the bilingual person who transfer significance to a word from his first language, to a word from his second language. Thus, sub-coordinated bilingualism implies the presence of a single set of significances properly acquired within the first language to which another linguistic label in another language is attached.

The features of those three types of bilingualism are to be illustrated in the following table (the example emphasize an English-French bilingualism).

**Tabel 1.**

Types of bilingualism

Types of bilingualism/Manifestation level	Coordinated Bilingualism		Composed Bilingualism	Sub-coordinated Bilingualism
Conceptual level	book	livre	book=livre	book
Intermediate level	↓	↓	↓ ↓	↓ /buk/
Lexical level	/buk/	/livr/	/buk/ /livr/	/livr/

## **2. Probe for assessing the receptive abilities of morphologic categories in Romanian language- construction principles (PRGCRL)**

Through the curricular analyses performed in the previous stage, and through the theoretical approach of the issues pertaining to the language and communication from a psycho-pedagogic, psycholinguistic and linguistic perspective (Neamțu, 2008, 2009; Bishop, 2003; Bachman, 1990) we created a probe for assessing the receptive abilities of morphologic categories in the Romanian language this chapter describes the probe elaborated for the conducting of the research base don the following coordinates:

- the presentation form ;
- the structuring of the material;
- grammatical content;
- lexical content;
- the target group.

### *2.1 The presentation form*

In order to evaluate the capacity of comprehension of linguistic structures which display a lexical and grammatical content, image representations corresponding to these structures have been used. The subject's task is to identify the image representation corresponding to the given linguistic structure. The subject's answer has to be selected out of four possible image variants.

### *2.2 Structuring the material*

The probe is made up of 92 items, through which twenty morphological aspects are evaluated, which are relevant for the issue of morphologic competence in the Romanian language. The sentences on which the imagistic material is based represent the items of the probe. These were elaborated according to the following criteria :

- length;
- complexity degree;
- phonemic composition;
- syllabic composition of the words in the sentence;
- the usage frequency of the words;
- adquetion of the lexical content used to the age and development peculiarities.

### *2.3. Grammatical content*

The morphological aspects approached are grouped in twenty blocks of variables, which in their turn, are separated in two categories: flectional morphemes and derivational morphemes. The composition of the two categories is unbalanced due to the particularity of the Romanian language. Thus, the flectional morphemes category comprises the following morphologic aspects:

- article morphemes;
- number morphemes;

- gender;
- diathesis morphemes;
- time morphemes;
- mode;
- pronoun number/ gender morphemes;
- gender/ number morphemes with the adjective;
- comparison degree morphemes with the adjective;
- adverb/ adverbial phrases;
- comparison degree morphemes with the adverb;
- simple prepositions;
- compound prepositions;
- coordinating conjunctions;
- subordinating conjunctions /relative pronouns;
- cardinal numeral;
- ordinal numeral;
- suprasegmental phonemes;
- morphemes through which the animate/inanimate contents are rendered.

The category of derivative morphemes is represented by a single block of variables, namely that of prefix- derived words.

#### *2.4 Lexical content and target group*

The probe aims at children aged between 6-11 years, both valid children and children with disabilities, the linguistic material and the morphologic sample being selected according to the development characteristics of children having the previously mentioned age ( the most frequent are the concrete lexical contents expressed through nouns- 90, also, the verb category is well represented by approximately 50 verbs. There were also used approximately 30 adjectives, 15 adverbs, 10 numerals, 12 pronominal forms, 10 prepositions and 5 conjunctions). The most frequently used words are: “mother”, “father”, “girl”, “boy” and “to be”.

The probe can be also used with the help of a computerized interface, which simplifies the data recording procedure.

For the elaboration of this assessment tool, two instruments were considered, instruments which investigate the same dimension of the language, namely the morphologic dimension: the TROG test (**Test for Reception of Grammar**) (Bishop; Bright; James; Bishop; Van Der Lely, 2000; Bishop, 2003) and ECOSSE (**experimental program for the investigation of oral and written comprehension**) (Lecocq; Leuwers; Casalis; Watteau,1996).

### **3. Experimental design**

#### *3.1 Research objectives*

1. Establishing the way bilingualism interfere with morphological language structuring in Romanian Language.

2. Establishing the way bilingualism interfere with lexical language structuring in Romanian Language.

3. Stimulating language development within the bilingual context by elaborating and implementing intervention programs regarding morphologic competence development in Romanian Language.

*3.2 Research Hypothesis*

1. learning to languages in the same time can negatively interfere with developing morphologic competence in Romanian language;

2. learning to languages in the same time can negatively interfere with developing lexical competence in Romanian language;

3. elaborating and implementing intervention programs for developing morphologic competence throughout its components (article- noun; gender/number-noun; person/number-verb; time-verb; mode-verb; diathesis-verb; homographs) can improve both morphologic and lexical abilities in Romanian language

*3.3 Participants in the research*

Within this research were included 63 bilingual participants and 141 non-bilingual participants. Hearing impaired children, these using sign language for communication were placed in the category of bilingual persons, based on the theory elaborated by a series of researchers in the field, among these we can mention: Tucker and Powell, (1993); Anca, (2000); Virole, (2001, 2004, 2006). In the case of the hearing impaired children the acquisition of the two linguistic codes could be put in evidence from early developmental stages, aspect that underlines the fact that these participants in the research are to be considered as part of the category of coordinating bilingual persons and not composed bilingual persons.

The distribution of the participants in the research according to their second language is illustrated in table no. 1.

**Tabel 2.**

Bilingualism- underlining the second language

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid participants using only Romanian Language	141	69.1	69.1	69.1
Roma Language	39	19.1	19.1	88.2
Spanish Language	3	1.5	1.5	89.7
Hungarian Language	13	6.4	6.4	96.1
French Language	1	.5	.5	96.6
Sign Language	7	3.4	3.4	100.0
Total	204	100.0	100.0	

3.4 Tools used during the research

During this research were used the following psycho-pedagogical tools:

- the probe for reception of grammatical categories in Romanian language (PRGCRL);
- a list of twenty words that the participants had to define.
- others tasks conventionally used during educational assessment, tools that will be described along the results presentation.

3.5 The research results

3.5.1 Morphological features in the context of bilingualism in Romanian Language

In order to test the first hypothesis of the research, in order to establish the differences, referring to the global construct of morphologic competence, among the bilingual and the non-bilingual participants in the research, it is used the normalized distribution of the scores obtained by applying the PRGRL probe.

**Tabel 3.**

Mean and standard deviation values in the bilingual and non-bilingual context

Non-bilingual/bilingual	Mean	N	Std. Deviation
Non- bilingual persons	70.0213	141	11.46141
bilingual persons	62.5556	63	13.70516
Total	67.7157	204	12.64590

In order to calculate the differences between the means t test was used.

**Tabel 4.**

Independent Sample Test report

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
		Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
Scor total	Equal variances assumed	.521	.471	-4.173	199	.000	-.91933	.22030	-1.35376	-.48490
	Equal variances not assumed			-4.214	123.061	.000	-.91933	.21819	-1.35121	-.48745

The fact that the score in Levene's Test (Levene's Test for Equality of Variances) is not significant from a statistical point of view proves that the two samples are homogenous, thus "Equal variances assumed" value of the t test is to be analyzed. According to this value the mean differences are highly significant from a statistical point of view,  $p < .01$  ( $t = -4.173$ , Sig. 2 tailed = .000). This proves the fact that bilingual participants in the research score inferiorly comparing with non-bilingual participants, referring to receptive morphological abilities. The bilingual participants in the research have a lower mean of the scores, and the differences were calculated between their results and the results of the non-bilingual participants, thus the t value is a negative one.

The t test results indicate significant differences from a statistical point of view between the bilingual and non-bilingual participants in the research, regarding the way morphologic competence was structured.

This aspect demonstrates that the first research hypothesis is confirmed, this facilitating the inclusion of the bilingual participants in the category of subtractive bilingual persons. Subtractive bilingualism seems to be a delaying element in linguistic development, in our case at morphological Romanian language level.

The correct answers frequencies and the frequencies difference for the two categories of participants in the research; bilingual and non-bilingual participants were calculated at the level of every block of variables included in the probe for reception of morphologic categories in Romanian language, psycho-pedagogical tool used during the assessment. In this way there can be underlined the different acquisition features of the morphological abilities that are component parts of morphologic competence in Romanian language.

Our research starts from the assumption that identifying significant differences between the means of the two experimental groups scores, at the level of the global construct of morphologic competence; it will also be put in evidence significant differences in the component blocks of variables. In order to test this assumption chi square test was used for calculating the frequencies and the frequency differences.

Significant results were obtained at the level of the following blocks of variables: *article, gender, number, diathesis, time, mode, pronoun, comparison degrees of the adjective, compound prepositions, derivative morphemes, suprasegmental morphemes, animate/inanimate category*. This indicates that bilingualism prevents the acquisition of certain morphologic abilities. These abilities, however, represent fundamental elements of the morphologic competence in the Romanian language, according to the value of the t test.

This result indicated the fact that certain morphologic aspects are of a greater importance for influencing morphologic competence development in Romanian language, but also the fact that bilingualism variable can be understood as a hidden variable for these measurements. *Thus, a new research perspective depicts in order to control bilingualism variable, a paired sample based research.*

3.5.2 Lexical features in the context of bilingualism in Romanian Language

In order to test the second hypothesis formulated by this study: *learning to languages in the same time can negatively interfere with developing lexical competence in Romanian language*, were compared the results obtained by the two categories of participants: children who display bilingualism and children who do not display bilingualism, in the probe which required the defining of twenty words.

**Table 5.**

Distribution of the variable „number of defined words” for the entire lot of participants

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Number of defined words	204	.00	20.00	12.5245	4.63701	-.584	.170	-.306	.339
Valid N (listwise)	204								

It can be noted, from the above table, that the distribution of the variable „number of defined words” is normal (according to the skewness and kurtosis indicators), which allows the realization of the intended comparison.

**Table 6.**

Descriptive indicators of bilingual or non bilingual participants as per the number of defined words variable

Group Statistics					
Non bilingual/bilingual		N	Mean	Std. Deviation	Std. Error Mean
Number of defined words	Non-bilingual	141	13.6809	4.20598	.35421
	Bilingual	63	9.9365	4.53969	.57195

The data in table 5 indicate a much smaller value of the average of correctly defined numbers, compared to the average values of non bilingual participants. In order to check whether the differences obtained are statistically validated, the t test was applied on independent samples. The test results can be found in table 6.

**Table 7.**

The report resulted from the application of “Independent Samples test” in the context of bilingualism and its absence according to the defined words variable

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Number of defined words	.891	.346	5.731	202	.000	3.74434	.65332	2.45613	5.03255
Equal variances assumed									
Equal variances not assumed			5.566	111.420	.000	3.74434	.67275	2.41131	5.07738

Considering that the results obtained upon applying the Levene`s test indicate that this is statistically insignificant (F=.891), it can be noticed that the distributions are homogenous. In the light of this result the first value of the t test „Equal variances assumed” is considered. Thus it can be noticed that the t test is statistically significant (t=5.731, p<.01). According to this value, it can be concluded that the differences between the two lots are significant, which means that the bilingual participants define fewer words than the non-bilingual participants

This result confirms the stated hypothesis, emphasizing the negative impact of bilingualism on the structuring of the lexical level of the language. These results are compliant with those that can be found in the specialized literature (Pearson; Fernandez; Oller, 1993).

3.5.3 Implementing programs for developing morphological and lexical abilities

The development of morphology based intervention programs results in an improvement of acquisition at the morphologic and semantic level of the language. Thus, the research also focuses on the analysis and the interpretation of the intervention programs results. The elaborated programs were implemented on bilingual children, their functional feature being emphasized with the help of two case studies.

The table below contains the concentrated results of the two participants, E.D.P and T.S.S., in the pre-test and the retest stage, at the probe for morphologic categories reception in the Romanian language. It was eliminated the variable taken for the familiarization of the participants with the probe as this was given, for the pre-test stage in September 2008, and for the retest stage in May 2009.

**Table 8.**

Concentration of results in the pretest and posttest stage of the probe for morphologic categories reception

	<i>E.D.P.</i>		<i>T.S.S.</i>	
	<i>No. of items with incorrect answers/percentages</i>	<i>No. of items with incorrect answers/percentages</i>	<i>No. of items with incorrect answers/percentages</i>	<i>No. of items with incorrect answers/percentages</i>
Pretest	29	31,52%	20	21,73%
Retest	12	13,04%	10	10,86%
Differences	17	18,48%	10	10,86%

As it can be noticed from the above table, progresses were made in both cases after the intervention, at the level of the structuring of the receptive morphologic abilities. This aspect underlies the importance of structuring of intervention programs of this type, even when language troubles due to bilingualism are identified.

Regarding the two children on whom the intervention programs were applied, progresses were recorded in terms of lexical abilities as well.

In the following table, the situation at the two participants' lexical level is illustrated from a numeric perspective, during the two stages (pretest and retest) of the research, in order to bring forth the quantitative differences.

**Table 9.**

The number of correctly/ incorrectly defined words by the two participants, in the pretest and retest stage

	<i>E.D.P.-</i>		<i>T.S.S.-</i>	
	<i>no. of correctly defined items</i>	<i>no. of incorrectly/ partially defined items</i>	<i>no. of correctly defined items</i>	<i>no. of incorrectly/ partially defined items</i>
Pretest	8	12	13	7
Retest	15	5	17	3
differences	7	7	4	4

### **Conclusions:**

Bilingualism in Romanian language influences, having into consideration the group of participants, included in this research, in a negative way morphological and lexical abilities. This aspect is important to be underlined (both at the assessment level and at the intervention one) as the social dynamics from our country forces teachers and speech language therapists to come across the bilingual phenomenon, in different combinations, in a greater degree nowadays.

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