La influencia del programa lingüístico en la creatividad lexicosemántica en catalán de alumnos de ESO: un estudio de caso

The influence of the linguistic program on the lexico-semantic creativity in Catalan of *ESO* [(Spanish) Compulsory Secondary Education] students]: a case study[i]

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RESUMEN.
El presente estudio forma parte del análisis de un experimento mucho más amplio sobre los mecanismos de innovación lexicosemántica en catalán realizado a alumnos de Educación Secundaria Obligatoria. Mediante una prueba denominada *picture naming*, se pretende valorar la influencia del sistema educativo y, concretamente, del programa lingüístico – Programa d'Incorporació Progressiva o Programa d'Ensenyament en Valencià–, en la competencia lingüística y comunicativa en catalán de alumnos de 1º y de 4º de la ESO del IES Mutxamel (Alicante). Se atiende, principalmente, al grado –cualitativo y cuantitativo– de generación léxica y semántica de dichos sujetos en función de su perfil sociolingüístico (programa lingüístico, lengua de identificación, aprendizaje o transmisión del catalán).

PALABRAS CLAVE.
competencia comunicativa, competencia lingüística, creatividad, innovación lexicosemántica, lengua de identificación, lingüística cognitiva, estrategias didácticas, bilingüismo, Programa Lingüístico, catalán, ESO, morfología, semántica

ABSTRACT.
The present study forms part of the analysis about a much broader experiment focused on the lexico-semantic innovation mechanisms in Catalan performed with ESO (Spanish initials for Compulsory Secondary Education) students. Based on a test called *picture naming*, the aim sought consists in assessing the influence of the educational system, and more precisely, of the linguistic program –*Programa d'Incorporació Progressiva* [Progressive Incorporation Program] or *Programa d'Ensenyament en Valencià* [Program for Teaching in Valencian (Language)]– on the linguistic and communicative competence in Catalan of students enrolled in the 1st and 4th years of ESO at the *IES* [Spanish initials for Secondary Education High School] located in Mutxamel (Alicante). Attention is mainly paid to the – qualitative and quantitative– degree of lexical and semantic generation of these subjects according to their sociolinguistic profile (linguistic program, language of identification, and learning or transmission of Catalan).

KEY WORDS.

Communicative competence, linguistic competence, creativity, lexico-semantic innovation, language of identification, cognitive linguistics, didactic strategies, bilingualism, Linguistic Program, Catalan, ESO, morphology, semantics

1. Introduction.

Access to linguistic creativity constitutes one of the characteristics that define the mastery of a language (Lessard & Levison, 2001, p. 245). More precisely, in the words of Langacker (1987, p. 490), one of the fathers of Cognitive Linguistics, the expression 'lexico-semantic creativity' refers to "the creation of novel expressions, including extensions (involving figurative language, the adaptation of linguistic units to new situations, or even willful violation of conversion) and also the straightforward computation of fully sanctioned expressions."

In short, for us, lexico-semantic creativity is, amongst other things, the speakers' ability to generate and use new words or words with new meanings, or meanings combined in an original way with respect to the language utilized by their linguistic community in a previous period, using productive morphological mechanisms and the decoding of recently created words. This concept plays a central role in our experiment. The present paper seeks to characterize the impact of two different bilingual (Catalan (= Valencian) and Spanish) teaching programs on the lexico-semantic creativity resources in Catalan of a population formed by 12-to-16-year-old students living in a Catalan-speaking municipality.

Particularly, they have already been studied in relation to the increased use of *blending*, in the restrictive sense of 'portmanteau words' or "*calambur* [pun]"[ii] in Catalan (Martínez, 2014) and metonymy-based compounding (Martínez, in press).

The same as other linguistic aspects (Chui, 2016; Rao & Kuder, 2016), the exercise of a good lexico-semantic creativity capacity depends on a wide variety of factors. Lack of exposure to the reference language, linguistic interferences exerted by the dominant language, prejudice or linguistic uncertainty within a context typically adverse to the Catalan language –as that of the Valencian Autonomous Region– or expressed differently, a context of minorization, are sociolinguistic factors which acquire great relevance in our case. Especially so when these circumstances hinder the insertion of the Catalan standard model in the academic context, thus making it difficult to develop communicative competences in this language. This has been shown in the studies carried out by Baldaquí (2002 & 2009) on the extent to which bilingual programs and linguistic insecurity influence the acquisition of the lexical model, or by Segura (2003), with regard to the link between dialectal variation and the assimilation of the standard amongst the school population, or also by Garcia Sebastià (2014 & in press), in relation to the relevance of the working language when it comes to ESO students learning Catalan phraseology.

This paper has as its essential aim to stress the need to measure the weight of the linguistic program, the language of identification, and the way to access the knowledge of Catalan in the ability to master lexical and semantic resources when giving names to new or unknown things.

2. Objectives and methodology.

2.1. Objectives.

The aims to be hopefully achieved at the end of this study are:
a) Showing the results of a lexico-semantic creativity test in Catalan according to a selection of sociolinguistic variables on which our experiment focused: the linguistic program; the language of identification; and the mode of learning or transmission of that language.
b) Analyzing the influence of these sociolinguistic variables on the lexico-semantic innovation in Catalan of ESO or Compulsory Secondary Education students.

2.2. Methodology.

2.2.1. The subjects.
The data provided in this study result from an experiment designed to evaluate the procedures to categorize, that is, to measure the lexico-semantic creativity of 12-to-16-year olds. The test developed during the month of May 2016 at IES Mutxamel, a compulsory secondary education center selected amongst those located in the southernmost part of the Valencian Autonomous Region for being attached to a peri-urban and traditionally Catalan-speaking territory. The center received students both from the municipality of Mutxamel (81.37%) and from other neighboring towns –Sant Joan d'Alacant (0.98%), Sant Vicent del Raspeig (0.98%), Aigües (9.80%)– as well as the capital city of the *comarca* [administrative division smaller than the province] of *L'Alacantí* and the Alicante province, i.e. Alicante (2.94%). The 100 subjects who took part in the experiment shaped 4 groups of students enrolled in the 1st and 4th years of ESO who followed either the *Programa d'Incorporació Progressiva (PIP)* –2 groups– or the *Programa d'Ensenyament en Valencià (PEV)* –2 groups. In other words, the distribution of subjects involved in this initiative reflects 46.07% and 53.92% of students attending classes in Spanish or Catalan, respectively.

At this stage, it becomes necessary to explain that the functioning of the Valencian educational model has been determined by the *Ley de Uso y Enseñanza del Valenciano (LUEV)* [Law on the Use and Teaching of (the) Valencian (Language)] ever since 1983. This law articulates our educational system into a number of bilingual programs, more precisely, into two –PIP and PEV– depending on students' linguistic profile (i.e. Catalan-speaking, Spanish-speaking, bilingual or foreign-language-speaking); and on territoriality (inside or outside the area of Catalan or Spanish linguistic predominance).

On the basis of these criteria, a distinction must be drawn between:

a) The *Programa d'Incorporació Progressiva (PIP)*, conceived for students who are Spanish speakers or live in towns characterized by a linguistic predominance of Spanish, is currently in force at Primary as well as Secondary Education. It has Spanish as its base language and, thanks to the insertion of Catalan as a language and as an area (with the subjects Valencian Language, Language and Literature, and Knowledge of the Natural, Social, and Cultural Environment), it should ensure the assimilation of the curricular contents as well as the linguistic competence in Catalan.

b) The *Programa d'Ensenyament en Valencià (PEV)*, aimed at students who usually speak Catalan or live in environments where Catalan prevails, is implemented at Infant and Primary Education levels –and also to Spanish-speaking students at Secondary Education. It is characterized by the establishment of Valencian (= Catalan) as the working language for the purpose of giving it prestige and increasing its linguistic competence. As for Spanish, it is present right from the start, both in orality and in many other areas. It deserves to be highlighted that this program additionally includes a third –foreign– language at the Secondary Education level.

2.2.2. The survey questionnaire.

The survey consists of two parts. The first one is a 22-item test about the personal and sociolinguistic features of each student group: age, sex, family's place of origin, place of residence, family's linguistic habits, multilingual competence, etc. As for the second one, the test entitled *«Què és açò?» («¿Qué es esto?»)* [What is this?] (Comas, 2001; Estopà, 2005), it is an activity placed within the framework of qualitative teaching research methodology. It can be described as a type of experiment known as *picture-naming task* (Altarriba & Basnight-Brown, 2009, pp. 86-88) which consists in the computer-assisted projection of 12 images corresponding to new or little-known objects belonging to areas such as cooking, technology, esthetics, or sport. The participants had to name them in accordance with the following instructions: «*Suposem que vosaltres heu inventat aquestes coses i que les voleu col·locar al mercat. Quin nom els posaríeu, en català?»* *(«Supongamos que habéis inventado estas cosas y las queréis colocar en el mercado. ¿Qué nombre les pondríais, en catalán?».* [Let's imagine you have invented these things and you want to place them in the market. Which names would you give them in Catalan?).

Bajo, Puerta-Melguizo and Macizo (2003, p. 30) explain that the theories on linguistic production distinguish several representation levels involved in the linguistic creation process, from pragmatics to phonetics, and especially, as it happens in this specific case, when a thing or the image of a thing has to be designated. These types of tasks turn out to be useful because they not only directly activate the appropriate semantic information but also switch on the lexico-semantic relationships between the first language (L1) and the second language (L2) of participants: Catalan, Spanish, or others. Image-based stimulation is consequently an effective way to enlarge the lexicon/vocabulary that they normally use

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and to train the semantic memory of bilinguals through multiple routes towards lexico-semantic creativity.

The statistical methodology implemented for the analysis of the data collected and their presentation in this paper is a purely descriptive one. The following sections will show the results obtained from our 102 informants that will also be related to some of the items in the sociolinguistic questionnaire: (1) *Quin programa lingüístic curses? (¿Qué Programa Lingüístico cursas?)* [Which linguistic program do you attend?]; (2) *Quina consideres que és la teua llengua? (¿Cuál consideras que es tu lengua?)* [Which language do you consider to be yours?]; and (3) *De quina manera has aconseguit parlar en català? (¿Cómo has conseguido hablar en catalán?)* [How did you manage to speak Catalan?]. These questions allowed us to check the impact that schooling in Catalan and the language of identification have on these students' lexico-semantic innovation capacity, which is both quantitatively and qualitatively present in the wide range of lexico-semantic mechanisms obtained (Martínez, 2014 & in press).

3. Results.

As can be seen in Table 1, the quantitative and qualitative list of lexico-semantic results is highly diverse and satisfactory. More specifically, the variety of lexico-semantic mechanisms of 6 types (heritage compounding; syntagmatic compounding; *blending* or 'portmanteau words'; metaphor, metonym; and derivation) already suggest some linguistic trend amongst the teenagers. For instance, the increase of syntagmatic compounding and the formation of 'portmanteau words' to the detriment of traditional heritage compounding.

Below can be found these same results in relation to the 3 questions previously identified as (1), (2), and (3), which correspond with the following sociolinguistic factors:

3.1. Results according to the Linguistic Program
3.2. Results according to the language of identification
3.3. Results according to the learning or transmission of Catalan
3.1. (1) Which linguistic program do you attend? Results according to the Linguistic Program

Firstly, it is worth highlighting the parity between the IES Mutxamel students who attend the *Programa d'Incorporació Progressiva* (46.07%) and those enrolled in the *Programa d'Ensenyament en Valencià* (53.92%). Out of 102 students enrolled in the 1st and 4th years of ESO, 47 do the PIP[iii], and 55 the PEV.

TOTAL 1,053	Heritage Compounding	Syntagmatic Compounding	Blending or port-manteau words	Metaphor	Metonym	Derivation
Image 1: 90	22 (24.44%)	35 (38.88%)	27 (30%)	0.00%	1 (1.11%)	5 (5.55%)
Image 2: 84	6 (7.14%)	47 (55.95%)	20 (2.38%)	3 (3.57%)	0.00%	8 (9.52%)
Image 3: 81	22 (27.16%)	38 (46.91%)	10 (12.34%)	2 (2.46%)	1 (1.23%)	8 (9.87%)
Image 4: 89	22 (24.71%)	33 (37.07%)	10 (11.23%)	16 (17.97%)	0.00%	8 (8.98%)
Image 5: 93	10 (10.75%)	29 (31.18%)	21 (22.58%)	19 (20.43%)	2 (2.15%)	12 (12.90%)
Image 6: 97	18 (18.55%)	41 (42.26%)	20 (20.61%)	3 (3.09%)	2 (2.06%)	13 (13.40%)
Image 7: 90	13 (14.44%)	22 (24.44%)	50 (55.55%)	0.00%	2 (0.22%)	3 (3.33%)
Image 8: 95	29 (30.52%)	30 (31.57%)	19 (20%)	8 (8.42%)	5 (5.26%)	4 (4.21%)
Image 9: 89	8 (8.98%)	33 (37.07%)	21 (23.59%)	3 (3.37%)	2 (2.24%)	22 (24.71%)
Image 10: 86	13 (15.11%)	38 (44.18%)	15 (17.44%)	5 (5.81%)	2 (2.32%)	13 (15.11%)
Image 11: 86	26 (30.23%)	28 (32.55%)	22 (25.58%)	1 (1.16%)	1 (1.16%)	8 (9.30%)
Image 12: 73	25 (34.24%)	20 (27.39%)	7 (9.58%)	6 (8.21%)	4 (5.48%)	11 (15.06%)
TOTAL 1,053	216 (20.51%)	392 (37.22%)	242 (22.98%)	66 (6.26%)	22 (2.08%)	115 (1.092%)

Table 1. List corresponding to the morphological and semantic typology of all materials (12 images).

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Likewise, the results obtained with regard to the lexico-semantic mechanisms in Catalan, with a total of 1,053 responses, they show a 9.21% overall significant difference – quantitatively speaking– between the students belonging to these two groups. In fact, paying attention to each one of the lexico-semantic mechanisms generated by the students enrolled in each linguistic program allows us to see that PEV students outperform PIP students in terms of linguistic innovation capacity, since the former create 32 heritage compounds, 26 syntagmatic compounds, 26 'portmanteau words', 6 metonymies, and 7 derivatives more than the latter.

Program and year	Total responses	Total and percentage of heritage compounds	Total and percentage of syntagmatic compounds	Total and percentage of blends or portmanteau words	Total and percentage of metaphors	Total and percentage of metonyms	Total and percentage of derivatives
PIP 47	478 (45.39%)	92 (19.24%)	183 (38.28%)	108 (22.59%)	34 (7.11%)	7 (1.46%)	54 (11.29%)
1st	197	35 (17.76%)	71 (36.04%)	51 (25.88%)	17 (8.62%)	5 (2.53%)	18 (9.13%)
4th	281	57 (20.28%)	112 (39.85%)	57 (20.28%)	17 (6.04%)	2 (0.71%)	36 (12.81%)
PEV 55	575 (54.60%)	124 (21.56%)	209 (36.34%)	134 (23.30%)	32 (5.56%)	15 (2.60%)	61 (10.60%)
1st	311	73 (23.47%)	120 (38.58%)	61 (19.61%)	19 (6.01%)	9 (2.89%)	29 (9.32%)
4th	264	51 (19.31%)	89 (33.71%)	73 (27.65%)	13 (4.92%)	6 (2.27%)	32 (12.12%)
TOTAL 102	1,053	216 (20.51%)	392 (37.22%)	242 (22.98%)	66 (6.26%)	22 (2.08%)	115 (1.092%)

Table 2. List corresponding to the morphological and semantic typology of all materials according to Linguistic Program and Year.

3.2. (2) Which language do you consider to be yours? Results according to the language of identification

LP	Year	Language of Identification	
		Spanish	Catalan
PIP	1st	20 (100%)	0
	4th	24 (88.88%)	3 (11.11%)
PEV	1st	20 (68.96%)	9 (31.03%)
	4th	20 (76.92%)	6 (23.07%)
TOTAL	102 students	84 (82.35%)	18 (17.64%)

Table 3. List corresponding to students' language of identification according to LP [Linguistic Program] and year.

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When questioned about their language of identification, it can be seen that a vast majority of students (82.35%) see Spanish as the language with which they identify. The expression 'language of identification' or 'of attachment' refers to the one situated between the 'initial language' (or L1) and the 'commonly used language'; in other words, the language that subjects identify with because they consider it their own.

Taking into account the two options available for this questionnaire item, *Table 3* provides us with a number of relevant sociolinguistic data from the point of view of Catalan. In the first place, not all the students enrolled in PIP have Spanish as their language of identification; and, secondly, the number of PEV students identifying with Catalan is higher in 1st year than in 4th year of ESO. Therefore, one can foresee a timid gradual increase of students who consider that Catalan is their language.

Without ceasing to pay attention to the variable regarding the language of identification (64.71%), the type of lexico-semantic mechanisms obtained depending on the language of identification (cf. *Table 3.1*) reveals a 5.83% difference between the number of solutions given by the PIP and PEV students who define themselves as Spanish speakers.

Spanish as the language of identification	Year	Total and percentage of heritage compounds	Total and percentage of syntagmatic compounds	Total and percentage of blends or portmanteau words	Total and percentage of metaphors	Total and percentage of metonyms	Total and percentage of derivatives
PIP	1st	41 (19.80%)	75 (36.23%)	42 (20.28%)	19 (9.71%)	6 (2.89%)	24 (11.59%)
	4th	43 (21.5%)	59 (29.5%)	55 (27.5%)	13 (6.5%)	5 (2.5%)	25 (12.5%)
	407 (47.43%)	84 (20.63%)	134 (32.92%)	97 (23.83%)	32 (7.86%)	11 (2.70%)	49 (12.03%)
PEV	1st	35 (17.67%)	71 (35.85%)	51 (25.75%)	18 (9.09%)	5 (2.52%)	18 (9.09%)
	4th	52 (20.55%)	99 (39.13%)	54 (21.34%)	12 (4.74%)	1 (0.39%)	35 (13.83%)
	451 (52.56%)	87 (19.29%)	170 (37.69%)	105 (23.28%)	30 (6.65%)	6 (1.33%)	53 (11.75%)
84 students	TOTAL 858	171 (19.93%)	304 (35.43%)	202 (23.54%)	62 (7.22%)	17 (1.98%)	102 (11.88%)

Tabla 3.1. List corresponding to the morphological and semantic typology of all materials according to Spanish as the language of identification and Linguistic Program.

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Table 3.2 equally reflects the influence exerted by the language of identification, Catalan in this case, and by the Linguistic Program (PEV) on students' lexico-semantic creativity capacity in Catalan.

Catalan as the language of identification	Year	Total and percentage of heritage compounds	Total and percentage of syntagmatic compounds	Total and percentage of *blends* or portmanteau words	Total and percentage of metaphors	Total and percentage of metonyms	Total and percentage of derivatives
PIP	1st	0	0	0	0	0	0
	4th	5 (20%)	13 (52%)	3 (12%)	2 (8%)	1 (4%)	1 (4%)
	25 (12.82%)	5 (20%)	13 (52%)	3 (12%)	2 (8%)	1 (4%)	1 (4%)
PEV	1st	32 (30.47%)	45 (42.85%)	19 (18.09%)	1 (0.95%)	3 (2.85%)	5 (4.76%)
	4th	8 (12.30%)	30 (46.15%)	18 (27.69%)	1 (1.53%)	1 (1.53%)	7 (10.76%)
	170 (87.17%)	40 (23.52%)	75 (44.11%)	37 (21.76%)	2 (1.17%)	4 (2.35%)	12 (7.05%)
18 students	*TOTAL 195*	*45 (23.07%)*	*88 (45.12%)*	*40 (20.51%)*	*4 (2.05%)*	*5 (2.56%)*	*13 (6.66%)*

Tabla 3.2. List corresponding to the morphological and semantic typology of all materials according to Catalan as the language of identification and Linguistic Program.

3.3. (3) How did you manage to speak in Catalan? Results according to Catalan learning or transmission

LP	Year	Learning or transmission of Catalan			
		Not yet	Family	Friends	School and High School
PIP	1st - 20 students	1 (5%)	1 (5%)	0	18 (90%)
	4th - 27 students	0	3 (11.11%)	0	24 (88.88%)
PEV	1st - 29 students	0	5 (17.24%)	0	24 (82.75%)
	4th - 26 students	0	7 (26.92%)	0	19 (73.07%)
TOTAL	102 students	1 (0.98%)	16 (15.68%)	0	85 (83.33%)

Tabla 4. List corresponding to Catalan learning or transmission according to LP and year.

The third sociolinguistic variable refers to options a) I can't speak it yet; b) It was transmitted to me by my parents; c) I learned it with my groups of friends; d) I learned it at school and at high school. As can be seen in *Table 4,* most students acquired Catalan either in the family or in the academic context, or in both (26.92%).

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Learning of Catalan in PIP	Year	Total and percentage of heritage compounds	Total and percentage of syntagmatic compounds	Total and percentage of blends or portmanteau words	Total and percentage of metaphors	Total and percentage of metonyms	Total and percentage of derivatives
Family 4 students	1st	5 (50%)	2 (20%)	2 (20%)	0	0	1 (10%)
	4th	7 (24.13%)	12 (41.37%)	8 (27.58%)	2 (6.89%)	0	0
	39 (8.36%)	12 (30.76%)	14 (35.89%)	10 (25.69%)	2 (6.89%)	0	1 (3.44%)
School and High School 42 students	1st	55 (21.91%)	97 (38.64%)	54 (21.51%)	16 (6.37%)	7 (2.78%)	22 (8.76%)
	4th	35 (13.91%)	55 (21.91%)	55 (21.91%)	10 (3.98%)	5 (1.99%)	24 (9.56%)
	435 (75.25%)	90 (20.68%)	152 (34.94%)	109 (25.05%)	26 (5.97%)	12 (2.75%)	46 (10.57%)
TOTAL 46 students	474 (45.40%)	102 (21.51%)	166 (35.02%)	119 (25.10%)	28 (5.90%)	12 (2.53%)	47 (9.91%)

Table 4.1. List corresponding to the morphological and semantic typology of all materials according to Catalan learning in PIP

Learning of Catalan in PEV	Year	Total and percentage of heritage compounds	Total and percentage of syntagmatic compounds	Total and percentage of blends or portmanteau words	Total and percentage of metaphors	Total and percentage of metonyms	Total and percentage of derivatives
Family 12 students	1st	18 (30%)	24 (40%)	7 (11.66%)	3 (5%)	2 (3.33%)	6 (10%)
	4th	14 (16.86%)	35 (42.16%)	19 (22.89%)	3 (3.61%)	1 (1.20%)	11 (13.25%)
	143 (24.74%)	32 (22.37%)	59 (41.25%)	26 (18.18%)	6 (4.19%)	3 (2.09%)	17 (11.88%)
School and High School 42 students	1st	31 (17.51%)	64 (36.15%)	46 (25.98%)	15 (8.47%)	5 (2.82%)	16 (9.03%)
	4th	49 (19.6%)	106 (42.4%)	42 (16.8%)	15 (6%)	2 (0.8%)	36 (14.4%)
	427 (91.63%)	80 (18.73%)	170 (39.81%)	88 (20.60%)	30 (7.02%)	7 (1.63%)	52 (12.17%)
TOTAL 55 students	570 (54.59%)	112 (19.64%)	239 (41.92%)	114 (20%)	36 (6.31%)	10 (1.75%)	69 (12.10%)

Table 4.2. List corresponding to the morphological and semantic typology of all materials according to Catalan learning in PEV.

If a comparison is drawn between the way to access Catalan, that is, mostly at school and high school, and the typology of lexico-semantic mechanisms utilized when it comes to giving a name in Catalan to the 12 images presented, an effective influence of PEV on students' lexico-semantic capacity is verified once again (91.63%). It becomes similarly visible that those students who have L1 as their family language, or expressed differently,

who speak Catalan in the family environment too, own a greater variety of words and concepts (16.38%).

It is additionally worth highlighting the increased lexico-semantic creativity of PEV students in Catalan and, most probably, in the third language offered by this linguistic program (English or French).

4. Discussion.

4.1. Overall result description.

It firstly becomes necessary for us to stress the active participation of the 102 interviewed students in the task of naming the 12 images used for the study of lexico-semantic mechanisms in Catalan. A total of 1,053 accepted responses[iv] –out of the 1,224 expected ones– were available to us, with six different types of words according to the proposal of Cabré and Estopà (2009)[v], depending on the mechanism by means of which their formation had taken place, namely: 216 through heritage compounding (e.g. *guant mà* and *cordacordons*); 392 through syntagmatic compounding (*spray corporal*, *tàctildit*, and *polsera de goma*); 242 through *blending*[vi] or combination (*pelall*, *ungleitor*, and *frutball*); 66 through metaphor (*vaixell*, *serp*, and *pintura*); 22 through metonymy (*guant* and *xupo*); and 115 through derivation (*minielàstics*, *cavador/a*, *juicera*, and *descontracturador*).

As is well known, words reflect the individual and collective experience of the world. The huge number of lexico-semantic units obtained in this experiment shaped by the names chosen by each one of the 102 students refers us back to the individual experience and/or knowledge (of each specific student) –ICM [Idealized Cognitive Model] (Lakoff & Johnson, 1980)– or to those shared (by the whole school and/or generation group) with regard to the world that surrounds them and with which they have contact.

By way of example, the Germanic-syntax-based syntagmatic compound *tàctildit*, applied to the photography of 'graphene,' defined at the DRAE [Spanish initials for Dictionary of the Royal Academy of the Spanish Language] as "*un material laminar de átomos de carbono, obtenido del grafito, duro, flexible y conductor del calor y la electricidad, con grandes posibilidades de aplicaciones tecnológicas* [a laminar material of carbon atoms, obtained from graphite, hard, flexible, and a heat and electricity conductor, with great possibilities for technological applications]" illustrates the knowledge and experience owned by the student about the fields of electronics, computing, and telecommunications.

The metaphor *vaixell* («barco») [ship] applied to the image that represents an *esclopet de mà* –'glove-like piece of wood with which the reaper protects the little finger, the ring finger, and the middle finger of his left hand from the sickle cuts' (DRAE)– leads us to the only referent that a 12-to-16-year-old student can possibly have.

Frutball, which reminds us of *football*, is an example of morphological and conceptual amalgam between *fruta* [fruit] and the English word *ball*, refers to a "picker, sorter of fruits and vegetables" with which you could score some goals.

The conceptualization of the image with the (neuromuscular) kinesiotaping as *descontracturador* requires an encyclopedic and/or empirical knowledge about sports medicine, or at least, about sport.

Based on the studies performed by the OBNEO-IULA-UPF (2004), the onomasiological formation of neologisms tends to be more common than the semasiological one. Therefore, as we had the chance to confirm, the creation of words by means of heritage compounding (17.32%), syntagmatic compounding (32.10%), and derivation (9.31%) takes place more often than the implementation of metaphorical projections (5.31%), metonymic ones (1.63%), or conceptual integrations (19.11%).[vii] This probably has to do with the fact that semasiological mechanisms require a good inter- and intralinguistic mastery of the world, a greater abstraction capacity, a better cultural knowledge and, ultimately, a large number of individual and collective experiences.

4.2. Description of results according to the proposed sociolinguistic factors.

As predicted by Segura (2003, p. 256) and Pascual (2011, p. 149), the different role corresponding to the working language in the *Programa d'Ensenyament en Valencià (PEV)* and in the *Programa d'Incorporació Progresiva (PIP)* within the Compulsory Secondary Education curricular itinerary has resulted in divergent performance levels: while students enrolled in PEV have an equitable '*qualitat (calidad) lingüística* [linguistic quality]' in Catalan and in other languages, PIP students –who merely take one subject– show lacks regarding its mastery, as well as in other curricular areas. For this reason, the Linguistic Program stands out as the most influential factor amongst the three sociolinguistic variables selected: it has a 9.21% impact on the ability to develop a satisfactory linguistic –and more specifically lexico-semantic– creativity in Catalan.

In second place, the mode of access to Catalan through the family context (16.38%) and, in most cases, via the academic channel –and subsequently, thanks to the first factor, the linguistic program– plays a relevant role as well.

Finally, a high degree of importance must be assigned to the language of identification. The lexico-semantic solutions in Catalan provided by the students who identify with Catalan and attend PEV account for 87.17%, as opposed to those supplied by students enrolled in PIP, which only represent 12.82%.

Drawing a comparison between the results corresponding to all three variables, the proportion of students who admit having learned Catalan at school and that corresponding to those who acquired it at home differs by 67.65%. Furthermore, the Spanish-speaking students enrolled in PEV obtain 5.13% more solutions than the Spanish-speaking students who attend PIP –in quantitative terms. From a qualitative standpoint, the results obtained by that group, just like those of the Catalan-speaking group, proved to be much more conceptually complex –showing a higher level of access to the conceptual mastery of metaphor and metonymy. Thanks to the curricular design of PEV, both groups –1st and 4th years of ESO– have already developed and will further develop a good linguistic competence and, particularly, a greater lexico-semantic capacity, insofar as they have had and still have the chance to acquire and learn not only the two co-official languages of the Valencian Autonomous Region, Spanish and Valencian (= Catalan), but also a third language (English or French). In short, the results made it clear that PEV schooling constitutes the determining factor for students' lexico-semantic creativity in Catalan.

5. Conclusions.

In view of the fact

    a) that the students enrolled in PEV, either Catalan-speaking or Spanish-speaking, own a higher communicative –and consequently lexico-semantic– competence in Catalan, and probably in other languages;

    b) and that the small percent distance between the students who have acquired Catalan at home and those who learned it at school or high school demonstrates the effectiveness of the '*línea en valenciano* [line in Valencian]' linguistic program,

It was possible for us to check that the same thing is seen, is differently categorized, and is expressed in a new linguistic unit which may have a morphological origin (compounding and derivation), a semantic one (metaphor and metonymy), and a simultaneously morphological and semantic origin (*blending*). This is consequently a cognitive challenge of the speaker/student against the world where only communicative competence can serve as a weapon. A competence which, the same as any other, has to be trained individually and collectively, at home and, above all, at school through an inter-, intra-, and multidisciplinary way.

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Caterina Martínez Martínez. La influencia del programa lingüístico en la creatividad lexicosemántica en catalán de alumnos de ESO: un estudio de caso

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[i] The present study was developed at the *Institut Superior d'Investigació Cooperativa IVITRA [ISIC-IVITRA]* of the *Generalitat Valenciana* (Program of the Valencian Regional Government for the Constitution and Accreditation of Higher Excellence Cooperative Research Institutes [Ref. ISIC/012/042]), and within the framework of the following research projects: "*Gramàtica del Català Modern* [Grammar of Modern Catalan] *(1601-1834)*" (MINECO, Ref. FFI2012-37103); "*Continuación de la Gramática del Catalán Moderno* [Continuation of (the) Grammar of Modern Catalan] (1601-1834)" (MINECO FFI2015-69694-P); "*Constitució d'un corpus textual per a una gramàtica del català modern* [Constitution of a textual corpus for a grammar of Modern Catalan] (Gcm)" (IEC, Refs. PT 2012-S04-MARTINES; IEC1-15X); Digicotracam (Program PROMETEU for Excellence R&D Groups, *Generalitat Valenciana* [Ref.: PROMETEOII-2014-018], financed with EU's ERDF funds; and the "*Grup d'Investigació en Tecnologia Educativa en Història de la Cultura, Diacronia lingüística i Traducció* [Group of Research about Educational Technology in History of Culture, Linguistic Diachrony, and Translation]" (University of Alicante [Ref. GITE-09009-UA]). This study was possible thanks to the granting of financial aid to hire Teaching and Research Staff still in their pre-doctoral training stage, Program Vali+d [ACIF/2015/336].

[ii] Garcia Page (2010) defines "*calambur* [pun]" as "a playful contrivance that combines signifier with signified."

[iii] Following Baldaquí (2002), the PIP model applied by IES Mutxamel is 'Bilingual PIP': the one which is not confined to imparting the subject of Valencian Language: Language and Literature ('Basic (or Monolingual) PIP') but which, as explained above, also gradually incorporates some other non-linguistic subjects through the ESO stage, more precisely, Geography and History.

[iv] The main criterion to accept the responses obtain was that the solutions had to be grammatically correct in Catalan and in other foreign languages (English or French).

[v] Summing up, 'heritage compounding' is understood here as the union of two lexemes, either [Noun+Noun]$_{Noun}$ or [Verb+Noun]$_{Noun}$; 'syntagmatic compounding' is formed by the lexicalized syntagmatic structures of [[Noun]+[Noun]]$_{Noun}$, [Noun+Adjective]$_{Noun}$, [Adjective+Noun]$_{Noun}$ and [Noun+Prepositional Phrase]$_{Noun}$; the *blending* refers to the morphological (and/or semantic) fusion of [[Noun]+[Noun]]$_{Noun}$; metaphor and metonymy appear represented by a Noun which projects A's Idealized Concept Model over B through multiple semantic connections; and derivation may be prefixed and/or suffixed.

[vi] Cf. Fauconnier & Turner (2002), Dressler (2005), and Ungerer (2007).

[vii] The emergence of blends or 'portmanteau words' (Fauconnier & Turner, 2007) is due to the permanent contact of Romance languages with the Germanic ones and, more precisely, with the 'international language' or *lingua franca*, i.e. English. And also, without a doubt, to the pressure exerted by the mass media, and especially advertising, which has turned this mechanism into a true linguistic gimmick (regardless of whether it already existed or not as a traditional lexical generation mechanism in Catalan, and in the group of Romance languages as a whole).