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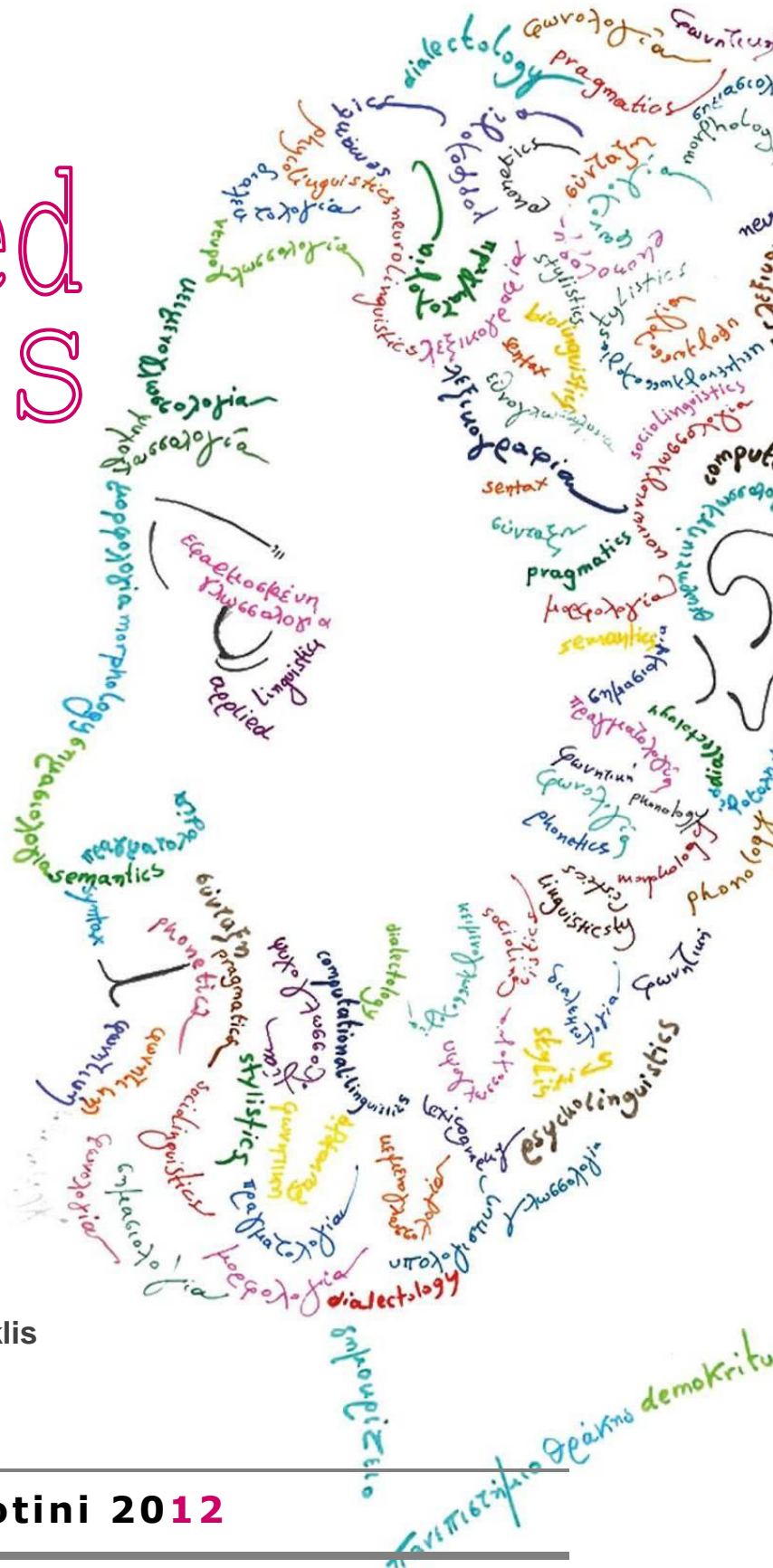## **L**inguistics

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■ **Οργανωτική Επιτροπή Συνεδρίου**
O r g a n i z i n g   C o m m i t t e e

Z o e   G a v r i i l i d o u
A n g e l i k i   E f t h y m i o u
E v a n g e l i a   T h o m a d a k i
Penelope Kambakis-Vougiouklis

■ **Γραμματειακή Υποστήριξη**
S e c r e t a r i a l   S u p p o r t

Ioannis Anagnostopoulos
M a r i a   G e o r g a n t a
P o l y x e n i   I n t z e
N i k o s   M a t h i o u d a k i s
L i d i j a   M i t i t s
E l e n i   P a p a d o p o u l o u
A n n a   S a r a f i a n o u
E l i n a   C h a d j i p a p a

■ **Τυπογραφική επιμέλεια**

Ν ί κ ο ς   Μ α θ ι ο υ δ ά κ η ς
Ε λ έ ν η   Π α π α δ ο π ο ύ λ ο υ
Ε λ ί ν α   Χ α τ ζ η π α π ά

■ **Σχεδιασμός εξώφυλλου**

Ν ί κ ο ς   Μ α θ ι ο υ δ ά κ η ς

COMPOUND FORMATION IN L2 LEARNING: THE CASE OF BULGARIAN, ROMANIAN AND RUSSIAN LEARNERS OF GREEK

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ABSTRACT

In this paper we evaluate the linguistic mechanisms which determine compound formation in the speech of L2 learners of Greek. More specifically, we used a structured questionnaire in order to test one-word compounds produced by Bulgarian, Romanian and Russian learners of Greek. Our findings were compared to findings from other studies on L2 compound formation. The data revealed that there are specific mechanisms which determine word formation and compound learning. We claim that such mechanisms are driven by Universal Grammar and their use in language teaching would facilitate language learning.

1. Introduction and theoretical background

Compounding is the most complex word formation process because it presupposes, on the one hand, the acquisition of derivation and inflection, and, on the other hand, vocabulary knowledge of the language being acquired or learned. One-word Greek compounds – or, else, lexical compounds are of two major types; **[[stem] + [stem] + derivational suffix]** and **[stem + word]** compounds. Words like *lemon-ó-dasos* 'lemon forest – NEUT.NOM.SG.' in which stress is shifted belong to the first type. In *lemon-o-dásos*, on the other hand, the second compound constituent preserves its morphophonological characteristics, i.e. its prosodic shape, gender and inflectional endings; therefore, it belongs to the second compound type (Drachman and Malikouti Drachman 1994, Malikouti-Drachman 1997, Nespor and Ralli 1994, 1996, Ralli 1992, 2002, Ράλλη 1996, 2005, 2007).[1] Two-word compounds belong to the so-called morphosyntactic – or, else, 'loose' – compounds (cf. Κολιοπούλου 2006, Ράλλη 2005, 2007) which fall outside of the scope of the present study.

Most research has focused on the theoretical analysis of compound forms (Drachman and Malikouti Drachman 1994, Malikouti-Drachman 1997, Nespor and Ralli 1994, 1996, Ralli 1992, 2002, Ράλλη 1996, 2005, 2007); however there is growing research on the perception and production of Greek compounds by atypical populations (cf. Jarema et al. 1999) and L2 learning of English nominal and deverbal compounds by Greek learners (cf. Agathopoulou 2003). The present study investigates the acquisition of Greek compounds by L2 speakers of the language placing emphasis on Bulgarian, Romanian and Russian learners of Greek. Our research questions are related to the examination of the mechanisms which drive compound formation as well as the extent to which these mechanisms are drawn from a shared pool of repair strategies among languages. More specifically, we are interested in investigating the degree to which Universal Grammar or both influence L2 compound learning irrespective of the learners' linguistic background.

The first studies with typically developed adults, and typically developing preschool and primary school children have been conducted by Tzakosta (2009) and Τζακώστα & Μανωλά (in press), respectively. In these and related studies which will be discussed below data were collected on the basis of two off-line structured questionnaires. T(est)1 examined the formation of existing real compounds such as *spanakopita* 'spinach pie-FEM.NOM.SG.', whereas T(est)2 investigated the formation of non-existing morphologically possible but semantically ambiguous or vague compound words, such as *molivopita* 'pencil pie-FEM.NOM.SG.'. The scientific goals of this experimental task are, first, to delve into the mechanism which drive compound formation, second, to investigate the degree to which

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[1] For additional discussion consult Anastasiadi-Simeonidi (1983), Αναστασιάδη-Συμεωνίδη (1996α, β), Ράλλη & Ραυτοπούλου (1999).

mnemonic or true word formation mechanisms determine compound formation, third, to examine the extent to which universal word formation strategies govern compound formation in different target groups irrespective of the typological similarities/ differences of mother and second languages or whether these similarities/ differences prescribe word formation.

Tzakosta (2009) makes a first survey on the tendencies that Greek native speakers exhibit regarding compound formation, especially with respect to some of its major aspects. The study revealed that Greek native speakers do not make mistakes in the formation of existing compounds, though they can produce variable forms which are equally grammatical/ acceptable (Test 1). Variability is connected to stress assignment and, consequently, to the preferred compound type, i.e. [[stem + stem] + deriv. suffix] or [stem + word] as well the occurrence (or not) of the linking vowel. However, variability in word formation is not extensive regarding headedness. Heads are almost exclusively located at the right edge of the compound. Head perception is ambiguous only in novel compounds (Test 2). Moreover, test 2 bared an extensive degree of variation in the formation of non-existing forms. The linking vowel appears across-the-board in compounds whose second constituent starts with a consonant. Its emergence is optional if the second constituent starts with a vowel. Linking vowels are always present in [stem + word] compounds. Apparently, they do not emerge due to the impact of phonology, but rather due to the selection of a specific compound structure over another. Mnemonic knowledge governs the formation of existing forms (Test 1). However, non-existing novel compounds are formed mainly on the basis of word formation processes (Test 2).

Τζακώστα & Μανωλά (in press) demonstrated that primary school Greek children improve faster compared to preschool Greek children. They assume that this is due to systematic teaching during the educational process. They further showed that a) accurate perception of compound heads, b) the function of the linking vowel, c) the alternative use of different compound structures, i.e. [[stem + stem] + derivational suffix] and [stem + word], in combination with d) the possibility for stress readjustment and stress shift without change in meaning are important cues for language instruction. According to Τζακώστα & Μανωλά (in press), accurate comprehension of the mechanisms which are relevant in compound formation has two further implications.[2] First, it facilitates the perception of monomorphemic[3] or polymorphemic words and the successful morphological segmentation of the latter. Second, this metalinguistic capacity provides preschool and primary school children with the additional possibility to incorporate newly acquired or learned words in word families and to understand the historical, structural and typological connection of Modern to Ancient Greek.

Additional studies on the acquisition of compounds by L2 learners based on the experimental material presented above (Tzakosta 2009) have been conducted by Tzakosta (2010, 2011a, b) and Kalligiannaki & Tzakosta (in press). More specifically, Tzakosta (2010) revealed that Dutch adult learners of Greek provide equivalent results with Greek native speakers with respect to the performance of the L2 experimental group regarding the variables of headedness, the linking vowel, the compound types and stress shift/ readjustment with the addition that L2 learners are highly influenced by their mother tongue (L1 transfer). As a result, the emergent compound types develop fused characteristics carrying properties from both Dutch L1 and Greek L2. Like native speakers, the L2 experimental group displayed that activation of mnemonic knowledge is extensive in T1 but not attested in T2 which is governed by word formation mechanisms.

In addition, Tzakosta (2011a) who tested Turkish learners of Greek demonstrated that both native speakers and L2 learners of Greek draw from the same pool of learning strategies governing compounding. However, it is important to note that Turkish L2 learners of Greek are also highly influenced by their mother tongue. It is important to note that the recruitment of two different age groups of Turkish learners of Greek revealed that older speakers have better knowledge of Greek. More specifically, all L2 learners show a preference for [[stem + stem] + derivational suffix] forms in both tests. Again like native speakers of Greek, Turkish L2 learners display strong activation of mnemonic knowledge in Test 1 as opposed to Test 2.

Moreover, Tzakosta (2011b) tested German learners of Greek and came to the conclusion that German learners of Greek display equivalent patterns of variation like native speakers of Greek. Tzakosta's assumption is that this is due to the fact that, to some extent, both native speakers and L2 learners draw from the same pool of universal constraints governing compounding. Like in the case of the studies discussed above, compounding in the speech of German L2 learners of Greek seems to be highly influenced by L1 word formation mechanisms. This L1 influence tends to be minimized in the

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[2] Cf. Γαβριηλίδου (2004) for additional proposals.
[3] We assume single morphemes words to be words which are inflected but not derived or compound (Tzakosta 2004).

speech of speakers who reach a high level of proficiency in Greek. Mnemonic knowledge is minimized in the formation of non-existing words both in L2 where word formation is productive.

Finally, in the same line with the previous studies, Kalligiannaki & Tzakosta (in press) exemplified that Albanian, Russian and Swedish L2 learners of Greek could potentially be (or become) bilinguals given the major findings of the data; first L2 groups provided equivalent results to L1 preschool acquirers of Greek, though they did not score as high as native speakers. Second, there is clear variation in the scores of different L2 groups; more specifically, the Russian and Swedish speakers performed better than Albanian learners in the formation of both existing (T1) and non-existing (T2) compounds. The discussion regarding the general characteristics of compound formation in Greek, Albanian, Russian and Swedish revealed that Greek is typologically more adjacent to Russian and Swedish than Albanian. In other words, typological similarity is responsible for the fact that the Swedish and Russian speakers perform better in forming compound words than the Albanian speakers. Therefore, the closer two languages are regarding their morphological synthesis the easier and faster they are learned or acquired. This entails that the inter-language typological adjacency should be seriously taken into consideration in the design and substantiation of the relevant teaching material and the teaching methods.

To sum up, all of the above studies' findings move to the same direction. More specifically, L2 learners of Greek exhibit equivalent tendencies to native speakers regarding compound formation and both acquirers and learners of Greek draw from the same pool of repair mechanisms which determine compound formation.

2. Objectives of the study and research methodology

The goals of the present study are summed up in, first, investigating the perception and production of Greek one-word compounds by Bulgarian, Romanian and Russian learners of Greek, and, second, exploring the preferred compound types, the position of heads, the role of the linking vowel, and, the emergence of morphologically variable forms.

We recruited 10 Greek native speakers and 10 L2 learners of Greek (two Bulgarian, two Romanian and six Russian) who were asked to fill in two written questionnaires, T1 and T2; we used the questionnaires designed and used in Tzakosta (2009) and subsequent works which demanded the formation of nominal and deverbal compounds. T1 examines the formation of real compounds (215 forms), like *pefkodasos* 'pine forest-MASC.NOM.SG.', while T2 investigates the formation of novel compounds (155 forms), i.e. morphologically possible but semantically non-existing words, like *molivodasos* 'pencil forest-MASC.NOM. SG.'.

Our theoretical approach is differentiated from the one followed in Kalligiannaki & Tzakosta (in press). More specifically, we do not rely on the typological similarities or differences between Greek and the mother languages of our subjects in order to evaluate the validity of the mechanisms activated during compound formation. Conversely, we deliberately 'ignore' such linguistic aspects and exclusively rely on the data per se in order to make generalized teaching proposals without taking the learners' linguistic background into consideration. In other words, we adopt a more pedagogical rather than linguistic approach of our topic.

Our working hypotheses which are based on the findings of relevant previous studies (cf. Tzakosta 2009, 2010, 2011a, b, Τζακώστα & Μανωλά in press, Kalligiannaki & Tzakosta in press) are the following:
- Both Greek native speakers and L2 learners of Greek are expected to prefer producing [[stem + stem] + derivational suffix] compounds because of the unmarked prosodic pattern of the latter. In other words, [[stem + stem] + derivational suffix] compounds are characterized by stress shift which results in the untepenultimate stress pattern of Greek.
- linking vowels/elements comprise compound perceptual cues. In other words, linking vowels/ elements are supposed to drive accurate compound perception and production.
- Heads almost always emerge at the right edge of the word for both native speakers and L2 learners.
- Native speakers' and L2 learners' compound perception is influenced by language frequency and language use. Words of high frequency are not recognized as compounds; therefore, they are produced based on mnemonic knowledge. On the contrary, words of low frequency are produced through the activation of word formation mechanisms.
- Mnemonic mechanisms are activated in T1 while true word formation capacity is attested in the formation of novel compound forms.

- Both native speakers and L2 learners draw from the same pool of word formation mechanisms governed by Universal Grammar (hereafter UG).

3. Results and Discussion

In this section we present the results of our data regarding the major variables tested in this study, namely the preferred compound type, the position of heads and the emergence of the linking vowel. Graph 1 presents the statistical results of L2 learners regarding T1, i.e. the questionnaire which evaluates the formation of existing compounds. The first interesting outcome is that irrespective of the L1 linguistic background of our subjects they all show equivalent tendencies. More specifically, it seems that heads and the linking vowel constitute important perception and production cues since they exhibit very high rates of accurate and correct emergence in the data for both native speakers and L2 learners. Moreover, although native speakers do not make a clear preference for [[stem + stem] + derivational suffix] or [stem + word] compounds, Bulgarian and Russian learners show a preference for [[stem + stem] + derivational suffix] compounds, while Romanian learners opt for [stem + word] compounds. In addition, native speakers and Bulgarian and Russian learners productively use variable forms like *ponokefalos* vs. *kefaloponos* 'headache-MASC.NOM.SG.' without any change in meaning. In relation to that, it seems that our subjects have a good knowledge of the Greek vocabulary since the rates of non-answered questions and non-compound forms emerging instead of compound ones are very low for all groups of learners.
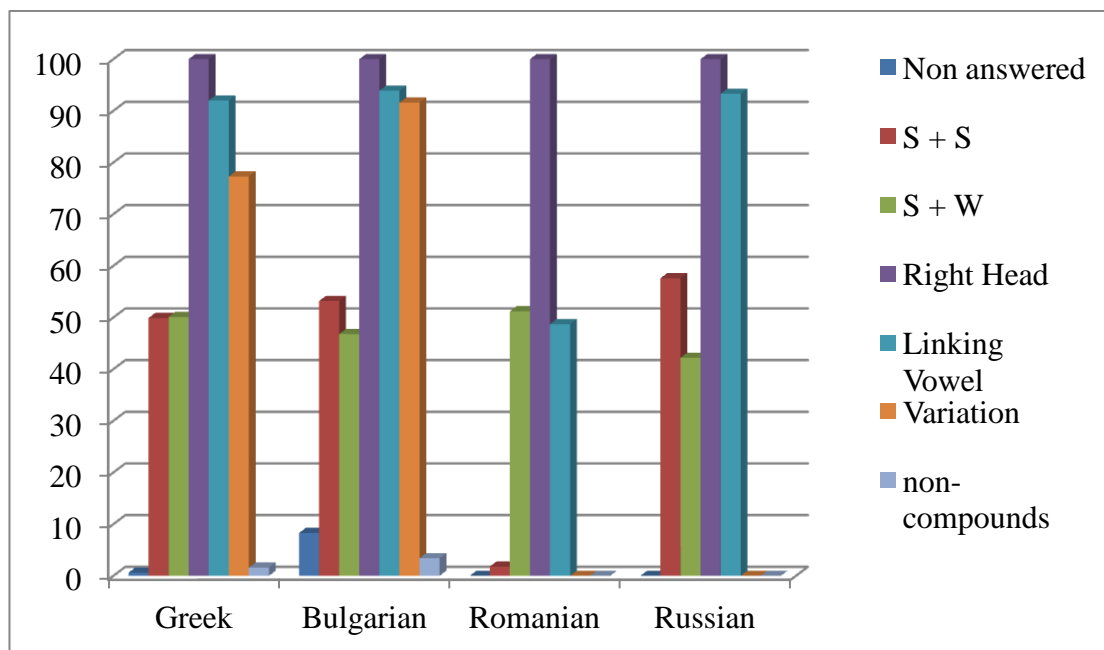
Graph 1 Statistical results for existing compounds (T1)

Graph 2 enhances the validity of the results of T1 in the sense that T2 data move to the same direction like those in T1. More specifically, heads correctly appear at the right edge of the word and linking vowels accurately emerge where needed almost across-the-board for all groups of subjects, native speakers and L2 learners. The rate of non-answered questions in T2 is low for native speakers and Bulgarian L2 learners but is very high for Romanian and Russian learners. At the same time, variable forms emerge extensively in the data of native speakers and Bulgarian learners and are almost non-existing in the data of Romanian and Russian L2 learners. This might imply that Romanian and Russian learners are still in the process of learning compound formation mechanisms, which are, in turn, evidence for vocabulary mastery. Moreover, [[stem + stem] + derivational suffix] compounds are clearly preferred by all subjects groups. We assume that this is proof for the fact that unmarked patterns, like the antepenultimate stress template, emerge when true word formation mechanisms are activated.
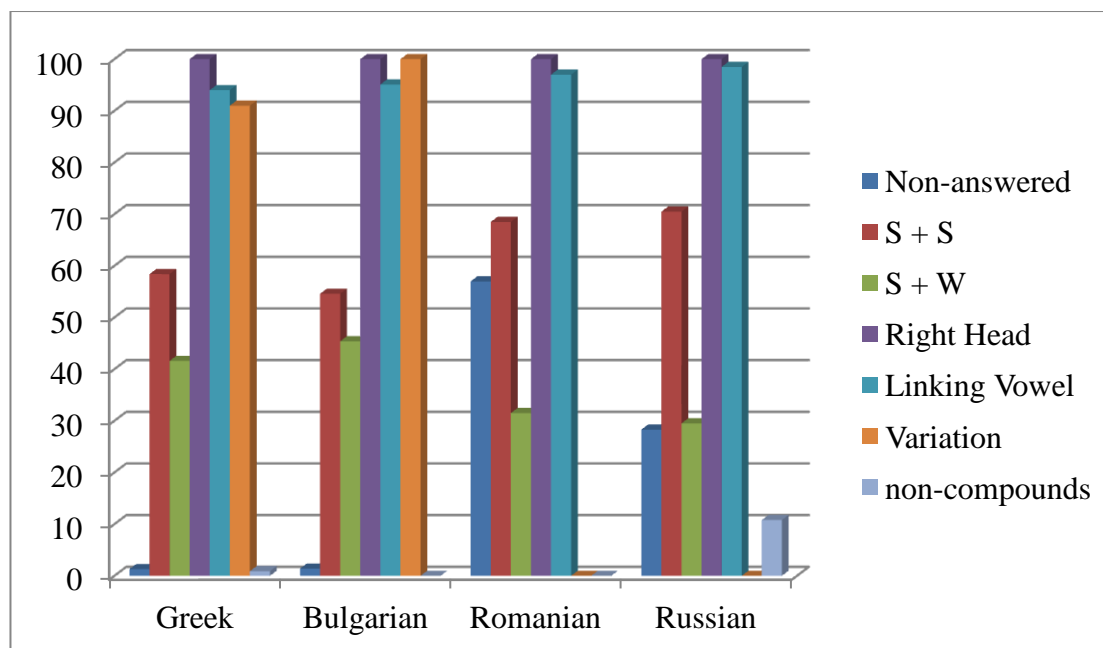
Graph 2 Statistical results for non-existing novel compounds (T2)

Such results verify all our working hypotheses. To sum them up, it appears that all subjects groups prefer to produce forms which fall within unmarked phonological patterns. All groups use cues for accurate perception and correct production of compound forms. More specifically, heads and linking vowels determine to a great extent correct production of both existing and novel compounds. However, we cannot ignore the fact that word use and word frequency govern mnemonic mechanisms. Novel compounds, on the other hand, are governed by UG repair strategies.

The data further showed that all subjects groups' statistical results are related to the proficiency level of the learners rather than the typological similarities and/ or differences of the learners' L1 background with the L2 target language. This further implies that the same teaching methods can be used for different learners' groups. More specifically, the structure of compound types, headedness and the use of the linking vowels, constitute important perceptual and teaching cues and facilitate morphology and vocabulary learning.

4. Conclusions

In this study we tested the capacity of Greek native speakers and Bulgarian, Romanian and Russian learners of Greek to form compound words. The data revealed that irrespective of the morphological synthesis of the learners' L1 background, both native speakers and L2 learners demosntrate equivalent results for most tested variables. In other words, certain linguistic aspects, such as unmarked stress patterns, the use of the linking vowel and right headedness constitute strong perceptual cues, and, consequently, strong teaching tools for all groups. Moreover, the results of the present study are in line with the results of previous studies (cf. Tzakosta 2009, 2010, 2011a, b, Τζακώστα & Μανωλά in press, Kalligiannaki & Tzakosta in press); this supports our claim that UG mechanisms determine word formation even at advanced proficiency levels.

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