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# Is a 'a little doll' truly a little doll? Morphology teaching through children's stories

## Marina TZAKOSTA, Chrysavgi DERTZEKOU & Georgia PANTELOGLOU

The acquisition of word formation processes is considered to be the necessary prerequisite for the mastery of the morphology of the mother language as well as vocabulary development and vocabulary learning and teaching (Nagy et al., 2006; Nagy & Herman, 1987; Templeton, 1989). In addition, the acquisition of the morphological component of a language makes predictions regarding the acquisition of other linguistic components, such as the syntax and/or the semantics. The aim of this paper is to describe the main axes of a program of teaching the morphology of Greek through children's stories and the results of its implementation in class. The core of the program is a story accompanied by consolidation exercises. Aki-aros-itsa, the teaching program, was implemented to a) a group of 94 monolingual preschool children (age range: 5-6 years) who served as the experimental group and b) a group of 54 adults (age range 18-50 years) who served as the control group. The results of the implementation of the program underlined the fact that the experimental and control groups' scores improved with respect to the assimilation of derivational rules and principles after the teaching intervention. This entails that focused children's stories provide an effective and fast way of teaching the morphology of Greek L1.

**Key words:** word formation processes, derivation, diminutization, augmentation, children's stories, language teaching material

### 1. Introduction

The acquisition of word formation processes is the vehicle for morphological development and vocabulary learning and teaching (Nagy et al., 2006, Nagy & Herman, 1987; Templeton, 1989). The importance of the above lies in the fact that the acquisition of the morphological component of a language makes predictions regarding the acquisition of other grammatical components, such as the phonology, the syntax and the semantics of the language. Except for the acquisition of the morphophonological component, story reading and story retelling are thought to be suitable for oral and verbal language development in L1 (Brice-Heath, 1982; Connelly & Clandinin, 1990; Egan, 1989; Isbell et al., 2004; Morrow, 1985; Penno et al., 2002; Read, 2008) but also L2 (Sinclair-Bell, 2002;

Shyu, 2008; Tsou et al., 2006). However, none of the aforementioned studies target a specific vocabulary/ grammatical category.

In the present study, we explore the mechanisms, rules and principles, which drive the process of word formation by native speakers of Greek but are also activated throughout. In other words, we investigate the linguistic performance of native speakers with respect to the internal structure of derived forms as well as the relation among distinct derivational constituents, the degree of activation of derivational mechanisms and rules. Emphasis is placed on the formation of diminutive and augmentative forms, which are frequently produced in child and child-directed speech (hereafter CDS) (Stephany, 1995, Thomadaki, 2007; Tzakosta & Hadzidaki, 2013).

The paper is organized as follows: section 2 discusses the rules and principles of derivation in Greek, while section 3 presents the axes and goals of the teaching program. Section 4 offers a detailed presentation and discussion of the teaching intervention, the methodology, the intervention parts and the findings. Section 5 concludes the paper.

#### 2. Derivation in Greek and cross-linguistically

Greek derivation is defined as the word formation process, which takes the form of affixation (Ralli, 2005). Affixation may take the shape of prefixation (as shown in 1a), suffixation (as shown in 1b), or both in the same word (as shown in 1c).

- 1a. δια-βιβάζ-ω <dia-vivaz-o> 'transmit 1PR.IND.SG.'
- 1b. παιδ-**ικ-ός <**ped-ik-os> 'infintile, childish ADJ.MASC.NOM.'
- 1c. δια-βιβαστ-ικ-ός <dia-vivast-ik-os> 'transmitter ADJ.MASC.NOM.'<sup>1</sup>

In Greek, diminutization and augmentation (i.e., the derivational processes during which nominal forms undergo a change in their semantics in order to define 'small' and 'big' items of anaphora, respectively) take the form of suffixation. Especially diminutization, which also expresses affection, is broadly used in CDS (Thomadaki, 2007) and is a very productive word formation process cross-linguistically. Therefore, it is worth presenting some cross-linguistic data before we turn to the Greek facts. We will focus on data from Russian, Lithuanian, Finnish, Hebrew and Italian.

In Russian, although diminutization is a non-regular process, it is a frequently attested process. It takes the form of suffixation: the use of suffixes depends on word gender and phonological shape. Some representative examples of Russian diminutives are provided in (2) below.

- 2a. sestra 'sister',
- 2b. sestr-ICHK-a or sestr-JONK-a 'sister-DIM.'

According to Voeykova (1998), the preference for certain suffixes depends on input frequency: In addition, it is only after the age of 1.08 years that 'conscious' use of diminutive forms begins in child speech. However, such claims do not lead to safe conclusions since they come from one child only (Voeykova, 1998).

In Lithuanian, diminutization is the most frequent word formation process. Like in Russian, it takes the form of suffixation and the preference for certain suffixes/ forms is attributed to input frequency

<sup>&</sup>lt;sup>1</sup> Greek inflectional suffixes are attached to the right of derivational suffixes. Therefore, inflectional suffixes are in bold letters together with derivational suffixes but they are isolated with an -.



effects. Savickiene (1998) claims that diminutive vocabulary enrichment is reported after the age of 1.08 years. The most frequent suffixes are *—elis* for the masculine gender and *—ele* for the feminine gender. Representative examples of Lithuanian diminutives are provided in (3a) and (3b) below (Savickiene, 1998).

- 3a. sen-**elis** 'grandfather',
- 3b. sen-**ele** 'grandmother'

In Finnish, an agglutinative language, diminutization is realized by means of suffixation and stem changing processes. Suffixed diminutization is illustrated in the data in (4a-b) and stem changing diminutization is exemplified in (4c-e) (Laalo,1998).

4a. - nen → kala 'fish' - kalanen 'little fish'
4b. tyttö 'girl' - tyttönen 'little girl'
4c. - nenu 'little nose' - derived from nenä 'nose'
4d. - simmu 'little eye' - derived from silmä 'eye'
4e. - känny 'little hand' - derived from käsi 'hand'

Although diminutization is frequently attested in child speech, it is not a frequent word formation process in adult speech and CDS. The data from one child acquiring Finnish as a mother language, though limited, report the extensive use of the second type of diminutization (namely, stem changing diminutization) already by the age of 0.10 years (examples in (3c-e). This preference is explained by the fact that the products of diminutization are forms which are characterized by their prosodically simple phonological shape (Laalo, 1998), (i.e., their simple syllabic and prosodic structure).

In addition, diminutization in Hebrew is realized through two fundamental processes: suffixation and reduplication are both productive and frequently attested in child and adult speech. Representative examples of suffixed and reduplicated diminutives are provided in (4a) and (4b), respectively.

4a.	kos 'glass',	kos <b>it</b> 'wineglass'
4b.	kaxol 'blue',	kxalxal 'light blue'

Diminutive forms appear relatively late, i.e., after the age of 2.00 as shown in the data of eight children (age range: 1.02-5.06). Hebrew children do not make use of adult forms and prefer to produce diminutives of the suffixation *-i* pattern (Ravid, 1998).

Finally, Italian data from one child who was tested between the age of 1.04-3.09 display that diminutization takes place through suffixation and infixation. Recursivity is quite frequently and early attested in child speech, as shown in (5a) (De Marco, 1998). According to De Marco (1998) semantic acquisition in Italian occurs only after augmentatives emerge. It is important to note that none of the above studies considered augmentation, specifically the rules and principles governing this word formation process and its relation to diminutization.

#### 5. albergh-**ett-uccio** 'hotel-dim-dim'

Turning to Greek and given the existing literature, diminutives appear in the speech of infants around the age of 2.00 (Stephany, 1995). Diminutization seems to be determined by transparency of meaning, transparency of morphology, and productivity (Dalalakis, 1996). In other words, diminutive forms have specific meaning, and specific anaphora. Therefore, they are easy to decompose since they are morphologically simple and transparent. This is in accordance with the ideas developed by Dalalakis et al. (1999) who have pointed out that complex words take longer to process than simpler



ones independent of their (syllabic) length.

Furthermore, morphologically transparent complex words are processed faster than lexicalized complex words. For example, the word  $\kappa \circ \iota \kappa \lambda \cdot \dot{\alpha} \kappa \cdot \iota$  is more transparent than the originally diminutive form  $\sigma \alpha \kappa \dot{\alpha} \kappa \cdot \iota$ , which is not perceived as a diminutive form anymore. It is rather considered to be a lexicalized word. In addition, morphologically licit decomposition is easier than morphologically unmotivated decomposition. This is attested in the cases of  $\kappa \circ \iota \kappa \lambda \cdot \dot{\alpha} \kappa \cdot \iota vs. \alpha \circ \eta \cdot \circ \iota \lambda \cdot \dot{\alpha} \kappa \cdot \iota$ . In addition, Dalalakis (1996) tested nine subjects diagnosed with Developmental Language Impairment (DLI) who varied in age between 5.00 and 16.00 years of age. Dalalakis tested 80 real (62.6%) and 20 novel words (42.4%) through two tasks, one testing comprehension and one testing production. The results show that subjects performed better in the comprehension task (82.2%) as opposed to the production task (75.6%) in real -**ak-i** diminutives. Both DLI and typically developing controls showed that performance improves with age.

Moreover, Thomadaki (2007) has reported that the **-ak-i** suffix is the most frequently attested followed by **-ul-a** and **-its-a**. She further claims that type frequency rather than token frequency contributes to suffix productivity.<sup>2</sup> In addition, the emergence of new diminutives is related to child vocabulary growth in general. Finally, Tzakosta & Hadzidaki (2013) display that diminutization is a very productive word formation processes. Diminutives are preferred to augmentatives in ~65% of the tested cases. Diminutive preference is further inferred by the fact that ~40% of the augmentative forms are not successfully answered as opposed to 15% of diminutives. **-ak-i** is massively produced by preschool native speakers of Greek, followed by all other suffixes which exhibit much lower rates. It is worth mentioning that non-diminutive forms display a 10% rate of emergence. In addition, Tzakosta & Hadzidaki (2013) argue that in Greek the most frequently emerging diminutive suffixes are usually composed by simple syllabic structures lacking complex onsets and codas and are characterized by the unmarked prosodic patterns, i.e., they are disyllabic. This is the case with the diminutive suffixes **-ak-i** or **-ul-a**.

#### 3. Dyonomasia & Akiarositsa: the journeys of a centipede in Grammarland

The aim of this section is to discuss the axes governing *Aki-aros-itsa*, one of the two focused language teaching programs – the second one is *Dyonomasia* - created by Sinodi and Tzakosta (2014a, 2014b), which aims to facilitate and reinforce learning and teaching of specific word formation mechanisms. The implementation of *Aki-aros-itsa* and *Dyonomasia* in class may assist language educators to accurately evaluate the factors, the principles and the conditions that govern and, at the same time, facilitate language learning and teaching. The teaching materials consider the fundamental aim of the preschool curriculum, i.e., that teaching should take place in a playful manner (Read, 2008). Each of them describes and targets a morphological aspect of Greek. Specifically, *Aki-aros-itsa* targets word derivation and *Dyonomasia* targets word compounding. Derivation and compounding are two distinct "journeys of a centipede in Grammarland". Both teaching materials are driven by the same 'philosophy'. More specifically, each program is based on a story made up of real and novel words in order to test the degree to which word formation is governed by mnemonic strategies or the productive and conscious application of word formation rules.

Aki-aros-itsa, which is utilized in the present study (Sinodi & Tzakosta 2014b), is based on the findings and claims made by Kalligiannaki and Tzakosta (2013), Tzakosta (2009, 2011a, 2011b, 2017)

<sup>&</sup>lt;sup>2</sup> However, Thomadaki (2007) does not make clear why type frequency rather than token frequency contributes to suffix productivity.



and Tzakosta and Mamadaki (2013) according to which preference for specific morphological forms is defined by mnemonic mechanisms in existing words. However, full mastery of the morphological rules by the learners results in variability in the production of non-existing newly formed words.

The central heroes of the story are two little animals, Roussa, a centipede, and Noula, a kitten. Roussa and Noula become friends and they travel around Grammarland, they make new friends and enrich their linguistic knowledge. The story has been chosen as the best tool for the evaluation of language knowledge since it offers a context of meaningful communication. Story reading and story retelling are suitable for oral and verbal language development (Egan, 1989; Isbell et al., 2004; Morrow, 1985). The story is accompanied by a guide addressed to parents and language instructors as well as a set of suggested linguistic activities (see Figures 1 and 2).



Figure 1 The Dyonomasia story cover

Figure 2 The Aki-aros-itsa parts

### 4. Methodology of the present study

The major aim of the research presented in this paper is to test whether targeted language teaching materials are more accurate for language development and language teaching. More specifically, we aim to:

- a. Evaluate the linguistic level of the control and experimental group with respect to their word formation skills,
- b. Test whether there are different degrees word formation processes/ functions preferences for different groups, for example, diminutive forms over augmentative forms or vice versa,
- c. Assess whether both the control and experimental groups' language skills improve after the teaching intervention.

We assume that:

- a. Diminutization is preferred to augmentation given both groups' linguistic background,
- b. Both groups language skills improve after the teaching intervention.



#### 4.1. The material

As already mentioned, *Aki-aros-itsa* aims to evaluate the degree of accurate application of word formation processes and tests the productive use of existing as well as non-existing derived forms, (more specifically, nominal and verbal words, diminutives and augmentatives as well as word families). Its name is made of the combination of three major Greek diminutive and augmentative derivational endings, i.e. **-ak-i**, **-ar-os**, **-its-a** and consists of three parts: a story, a set of 10 representative teaching/ practice activities and a guide directed to parents and educators. The linguistic activities take the shape of word matching, word combination, filling the blanks, choosing the correct form.

#### 4.2. The participants

*Aki-aros-itsa* was implemented to a) a group of 94 monolingual preschool children (age range: 5-6 years) (hereafter Experimental Group 1, EG1), since we aimed to test the effect of the program before the critical period age limit (7 years) (Lenneberg, 1967), and b) a group of 54 adults (age range 18-50 years) (hereafter Experimental Group 2, EG2). The reason we used adults as controls is because we find it essential to compare the preschoolers' scores with the scores of native speakers who are expected to have fully acquired the rules of word formation processes and, therefore, have full mastery of their mother languages' distinct ways of expression.

The program was carried out in three phases in real class settings by three researchers. The class teacher was present during the entire process in order to facilitate the procedure if/ when needed. In Phase 1, the participants had to a) have the story read to them by the class's teacher, b) talk in class about the story's content, the derived words found in it and their properties, and, c) make a list of the derived forms of the story. In Phase 2, only EG1 had to draw a scene from the story (Figure. 3), while in Phase 3, EG1 and EG2 participated in various linguistic activities which took the form of picture naming tasks, close test and word-matching (Figure. 4). The three phases were preceded by a pre-test phase and followed by a post-test phase during which the EG1 participants were tested in the formation of derived forms. Only EG1 participated in the pre-test and post-test phase. Adults who are thought to have reached full mastery of the morphology of the mother tongue did not participate in the pre-test and post-test phase. However, they participated in all three phases of the project. Story reading took place in a university class and EG2 participants were tested individually. The implementation of the teaching program was carried out within a school/ academic week.



Figure 3: Drawing augmentative and diminutive forms during Phase 2.





Figure 4: A representative word-matching task in Aki-aros-itsa

#### 4.3. Findings

This subsection discusses the findings of the implementation of the teaching program. For the ease of reading, all tables are moved to the appendix. However, all tables are referred to in the discussion. Our findings display that diminutive endings were massively used for the formation of diminutive forms by all participants of EG1 and EG2 (85.38%) as opposed to other forms of diminutizing (6a). This preference created a huge gap between diminutive endings and the second category of diminutives, namely, periphrastic diminutives (5.6%) (6b). The other categories garnered smaller percentages. The maximum number of answers for diminutive endings was 21 with a 9.99 mean number of answers (table 1).

6a.	kout-i → kout- <b>ak-i</b>	'box – little box'
	Box-dim. en	d.
6b.	kout-i → para poli mil	kro kout-i
	Very very litt	le box

-**ak-i** is clearly the most frequently attested diminutive ending (percent: 67.9%, mean number of answers: 6.93). –**ak-i** is followed by –**its-a** which has a much lower production rate (percent: 16.94%, mean number of answers: 1.73), while the third diminutive ending is –**ul-a** (percent: 11.98%, mean, mean number of answers: 1.22). –**al-ak-i**, -**ul-ak-i** and –**its-its-a** are the three double diminutive endings<sup>3</sup> which exhibit lower scores, 1.65%, 0.25 and 0.25, respectively. These production rates of diminutive endings are in line with the findings of Stephany (1995), Thomadaki (2007) and Tzakosta and Hadzidaki (2013) (table 2).

Like in the case of diminutive forms, augmentative endings are used for the formation of augmentative forms (67.4%), followed by periphrastic augmentatives, e.g., (17.47%). There are also other types of augmentatives formation (for example, compound forms, unchanged forms or forms with double derivational endings). The mean number of answers for the most productive

<sup>&</sup>lt;sup>3</sup> Diminutization is recursive in Greek, therefore, it is possible to attach multiple derivational/ diminutive endings in the stem of the word.



augmentatives' category is 7.3. In addition, the use of double augmentation (7c) is small (percent: 0.38%, mean number of answers: 0.04) (table 4).

7a. aftocinit-o → aftocinit-ar-a 'car - very big car'
7b. aftocinit-o → para poli megalo aftocinito Very very big car
7c. aftocinit-o → aftocinit-ar-ara Very very big car

**-ar-a/ -ar-os/ -ar-o** appear to be the most frequently attested augmentative forms (percent: 85.13%, mean number of answers: 6.03) **-ar-a/ -ar-os/ ar-o** are followed by **-ukl-a** (percent: 4.78%, mean number of answers: 0.34%). These findings are in line with those in Tzakosta and Hadzidaki (2013) (table 4).

Tables 5-8 in the appendix summarize the production rates of diminutive and augmentative types and endings specifically for EG2 (adults). It appears that for both diminutive and augmentative forms derived words are preferred at higher rates compared to the total results in tables 1 and 2. Therefore, diminutive endings apply in 92,85% of the produced forms (mean number of answers: 13.22) (table 5), while augmentative endings apply in 89.98% of the produced forms (mean number of answers: 10.98) (table 7). The preference for **–ak-i** in the case of diminutive forms (table 6) and **– aros/-ara/-aro** in the case of augmentative forms (table 8) is equivalent to the rates emerging for all participants.

Tables 9-12 present the data of EG1 (children) in the pre-test phase (namely, before the teaching intervention was implemented in class). Clear diminutive and augmentative forms are preferred to other types of diminutization (table 9) and augmentation (table 11) **-ak-i** and **-ar-os/ -ar-a/ -ar-o** remain the most popular dimimutive and augmentative endings (table 10, table 12), although children's rates are lower than those of the adults. It is interesting that **-ak-i** displays lower rates (69,65%) than **-ar-os/ -ar-a/ -ar-o** (86.46%).

Finally, tables 13-16 display the rates of the produced diminutive and augmentative forms after Akiaros-itsa was taught in class. It is evident that all data are in line with the data in the tables for all participants but also separate groups. More specifically, diminutive formation prefers derivation through suffixation (percent: 87.11%, mean number of answers: 8.99) and **–ak-i** is the preferred diminutive suffix (percent: 66.25%, mean number of answers: 6.20) and it is followed by **–its-a** (percent: 18.52%, mean number of answers: 1.73) and **–ul-a** (percent: 12.27%, mean number of answers: 1,.15).

Children's progress in the formation of diminutive and augmentative forms after the teaching intervention is reported in figures 5-7. More specifically, figure 5 shows that diminutive forms are preferred to augmentative forms both in the pre-test and post-test phase. Progress was greater for augmentatives compared to diminutives. Therefore, diminutive formation is improved by 2.95%, while for augmentatives the improvement rate was as much as 5.97%.

Figures 6 and 7 illustrate children's improved scores for diminutive and augmentative forms, respectively. Figure 6 shows that children's productions were improved for all diminutive endings. – **ak-i** got the lower improvement scores since this ending already displayed high scores.





Figure 5: Diminutive and augmentative forms emerging in the pre and post- phase



Figure 6: Diminutive endings in the pre- and post-phase



The same holds for augmentative endings in figure 7. On the one hand, there is clear improvement of the children's general word derivation skills. Children's preferences follow the patterns of emergence reported in previous studies (Tzakosta & Hadzidaki, 2013).



Figure 7: Augmentative endings in the pre- and post-phase

Finally, figures 8-11 compare children's scores in the pre-test and post-test phases with those of the adults. Figures 8 and 9 refer to the comparison of the produced diminutive and augmentative forms. Figures 10 and 11 compare the suffixed diminutive and augmentative forms. It is obvious that children's morphological development improves in the post-test phase. However, children's scores are lower than those of the adults, since children are still in the process of acquisition of the morphological component of their mother tongue.

To summarize the above findings, it is evident that diminutive endings are massively used for the formation of diminutive forms by all participants of EG1 and EG2 (85.38%) as opposed to other forms of diminutizing, like periphrastic diminutives or idiosyncratic forms. **-ak-i** is clearly the most frequently attested diminutive ending, a finding which verifies and supports the findings of Stephany (1995), Thomadaki (2007) and Tzakosta and Hadzidaki (2013). As far as augmentation in concerned, suffixation is also massively preferred by all participants. **-ar-a/ -ar-os/ -ar-o** appear to be the most frequently attested augmentative forms followed by **-ukl-a** (see also Tzakosta & Hadzidaki, 2013, for similar results). The major outcome of the implementation of Akiarositsa is twofold: on the one hand, diminutization and augmentation are very productive word formation processes, which



facilitate morphological development, and, on the other hand, specialized language teaching programs can promote and reinforce language development. Put differently, language teaching projects/ materials can be effective if they tackle all aspects of a targeted linguistic phenomenon which is, in turn, treated in a playful manner like by means of a story. The teaching intervention has led to the children's gradual but clear progress regarding the formation of diminutive and augmentative forms.



Figure 8: Diminutive forms for children (pre-, post-phase) and adults



Figure 9: Augmentative forms for children (pre-, post-phase) and adults





Figure 10: Diminutive endings for children (pre-, post-phase) and adults



Figure 11: Augmentative forms for children (pre-, post-phase) and adults

#### 5. Conclusions

In this paper, we have tested the results stemming from the implementation of a teaching program, which places emphasis on the formation of derived forms, more specifically, diminutization and augmentation. The results displayed that teaching materials which target specific grammatical phenomena get clear results with respect to the participants' understanding of the phenomena and



the degree of learning the rules which underlie the tested grammatical phenomena. Our findings further underline the fact that children's stories not only provide a natural and effective way of language teaching, in general, and teaching the morphology of Greek as mother language, in particular but also highlight the importance of specialized and focused teaching material for the acquisition of the morphological component, vocabulary development and enrichment of the mother tongue. We argue that such teaching programs could also be successfully utilized in second language learning and teaching as well as the detection and diagnosis of language disorders. Research is still open in these fields.

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#### Appendix

	Ν	Min	Max	Sum	Mean	Percent
Diminutive ending	148	0	21	1478	9.99	85.38%
Periphrastic	148	0	10	97	.66	5.6%
diminutives						
Double diminutization	148	0	7	71	.48	4.10%
Unchanged form	148	0	7	20	.14	1.6%
Other answer	148	0	6	51	.34	2.95%
Compound form	148	0	8	14	.09	0.37%
Valid N (listwise)	148					

Diminutive endings	Ν	Min	Max	Sum	Mean	Percent
-aki/ -akos	148	0	13	1026	6.93	67.90%
-ula/ -ulis	148	0	5	181	1.22	11.98%
-itsa	148	0	6	256	1.73	16.94%
-alaki	148	0	1	25	.17	1.65%
-ulaki	148	0	1	2	.01	0.25%
-itsitsa	148	0	1	1	.01	0.25%
-ina/ -ini	148	0	2	8	.05	0.25%
other endings	148	0	2	12	.08	0.79%
Valid N (listwise)	148					

Table 2: Diminutive endings for all participants

	Ν	Min	Max	Sum	Mean	Percent
Augmentative ending	148	0	17	1080	7.30	67.40%
Periphrastic	148	0	12	277	1.87	17.47%
augmentatives						
Compound form	148	0	10	25	.17	1.57%
Unchanged form	148	0	11	100	.68	6.26%
Other answer	148	0	10	109	.74	6.92%
Double derivational	148	0	1	6	.04	0.38%
ending						
Valid N (listwise)	148					

Table 3: Types of augmentative forms for all participants



Augmentative endings	Ν	Min	Max	Sum	Mean	Percent
-ara/ -aros/ -aro	148	0	13	893	6.03	85.13%
-ukla	148	0	7	50	.34	4.78%
-aras	148	0	2	7	.05	3.91%
-ura/-uras	148	0	3	12	.08	1.14%
-a	148	0	3	26	.18	1.24%
-0S	148	0	1	7	.05	0.13%
-ona	148	0	1	13	.09	0.3%
other endings <sup>4</sup>	148	0	5	41	.28	3.54%
Valid N (listwise)	148					

Table 4: Augmentative endings for all participants

	Ν	Min	Max	Sum	Mean	Percent
Diminutive ending	54	6	21	714	13.22	92.85%
Periphrastic diminutives	54	0	0	0	.00	0.00%
Double diminutization	54	0	1	11	.20	1.43%
Unchanged form	54	0	0	0	.00	0.00%
Other answer	54	0	6	41	.76	5.33%
Compound form	54	0	2	3	.06	0.39%
Valid N (listwise)	54					

Table 5: Types of diminutive forms for EG2

	Ν	Min	Max	Sum	Mean	Percent
-aki/ -akos	54	5	13	457	8.46	65.85%
-ula/ -ulis	54	0	5	93	1.72	13.40%
-itsa	54	0	6	122	2.26	17.58%
-alaki	54	0	1	10	.19	1.15%
-ulaki	54	0	1	0	.02	0.30%
-itsitsa	54	0	0	0	.00	0.00%
-ina/ -ini	54	0	1	3	.06	0.72%
other endings	54	0	2	8	.15	1.00%
Valid N	54					
(listwise)						

Table 6: Diminutive endings for EG2

<sup>&</sup>lt;sup>4</sup> The augmentative endings of the 'other endings' category are **-akl-as, -or-os, -ub-a, -un-a, -o, -ol-a, -ud-a, -ela, -ar-is, -ud-ar-a**.

	Ν	Min	Max	Sum	Mean	Percent
Augmentative ending	54	6	17	593	10.98	89.98%
Periphrastic	54	0	2	3	.06	0.30%
augmentatives						
Double derivational	54	0	1	4	.07	0.61%
ending						
Unchanged form	54	0	1	2	.04	0.46%
Other answer	54	0	10	53	.98	8.04%
Compound form	54	0	2	4	.07	0.61%
Valid N (listwise)	54					

Table 7: Types of augmentative forms for EG2

	Ν	Min	Max	Sum	Mean	Percent
-ara/ -aros/ -aro	54	1	13	465	8.61	83.94%
-ukla	54	0	6	30	.56	5.42%
-aras	54	0	0	0	.00	0.00%
-ura/-uras	54	0	1	5	.09	0.44%
-a	54	0	2	7	.13	1.26%
-OS	54	0	1	6	.11	0.55%
-ona	54	0	1	13	.24	2.35%
other endings	54	0	5	28	.52	5.05%
Valid N (listwise)	54					

Table 8: Augmentative endings for EG2.

	Ν	Min	Max	Sum	Mean	Percent
Diminutive ending	94	0	13	764	8.13	79.42%
Periphrastic	94	0	10	97	1.03	10.08%
diminutives						
Double diminutization	94	0	7	60	.64	6.24%
Unchanged form	94	0	7	20	.21	2.08%
Other answer	94	0	3	10	.11	1.14%
Compound form	94	0	8	11	.12	1.14%
Valid N (listwise)	94					

Table 9: Types of diminutive forms for EG1/ Pre-test



	Ν	Min	Max	Sum	Mean	Percent
-aki/ -akos	94	0	11	569	6.05	69.65%
-ula/ -ulis	94	0	5	88	.94	10.77%
-itsa	94	0	4	134	1.43	16.40%
-alaki	94	0	1	15	.16	1.22%
-ulaki	94	0	1	1	.01	0.49%
-itsitsa	94	0	1	1	.01	0.49%
-ina/ -ini	94	0	2	5	.05	0.49%
other endings	94	0	2	4	.04	0.49%
Valid N (listwise)	94					

Table 10: Diminutive endings for EG1/ pre-test

	Ν	Min	Max	Sum	Mean	Percent
Augmentative ending	94	0	12	487	5.18	69.63%
Periphrastic	94	0	12	274	2.91	18.29%
augmentatives						
Double derivational	94	0	1	2	.02	0.74%
ending						
Unchanged form	94	0	11	98	1.04	6.84%
Other answer	94	0	6	56	.60	3.32%
Compound form	94	0	10	21	.22	1.18%
Valid N (listwise)	94					

Table 11: Types of augmentative forms for EG1/ pre-test

	Ν	Min	Max	Sum	Mean	
-ara/ -aros/ -aro	94	0	11	428	4.55	86.46%
-ukla	94	0	7	20	.21	4.04%
-aras	94	0	2	7	.07	2.63%
-ura/-uras	94	0	3	7	.07	1.41%
-a	94	0	3	19	.20	3.84%
-OS	94	0	1	1	.01	0.20%
-ona	94	0	0	0	.00	0.00%
other endings	94	0	2	13	.14	2.83%
Valid N (listwise)	94					

Table 12: Augmentative endings for EG1/ pre-test

	Ν	Min	Max	Sum	Mean	Percent
Diminutive ending	94	0	14	845	8.99	87.11%
Periphrastic diminutives	94	0	9	61	.65	6.29%
Double diminutization	94	0	8	45	.48	4.64%
Unchanged form	94	0	5	9	.10	0.93%
Other answer	94	0	1	1	.01	0.1%
Compound form	94	0	9	9	.10	0.93%
Valid N (listwise)	94					

Table 13: Types of diminutive forms for EG1/post-test



	Ν	Min	Max	Sum	Mean	Percent
-aci/-akos	94	0	10	583	6.20	66.25%
-ula/-ulis	94	0	5	108	1.15	12.27%
-itsa	94	0	6	163	1.73	18.52%
-alaci	94	0	1	18	.19	0.45%
-ulaci	94	0	1	1	.01	0.40%
-itsitsa	94	0	0	0	.00	0.00%
-ina/-ini	94	0	1	2	.02	1.16%
-araci	94	0	1	1	.01	0.40%
other endings	94	0	2	4	.04	1.0%
Valid N (listwise)	94					

Table 14: Diminutive endings for EG1/ post-test

	Ν	Min	Max	Sum	Mean	Percent
Augmentative ending	94	0	12	487	5.18	69.63%
Periphrastic	94	0	12	274	2.91	18.29%
augmentatives						
Double derivational	94	0	1	2	.02	0.74%
ending						
Unchanged form	94	0	11	98	1.04	6.84%
Other answer	94	0	6	56	.60	3.32%
Compound form	94	0	10	21	.22	1.18%
Valid N (listwise)	94					

Table 15: Types of augmentative forms for EG1/ post-test

	N	Min	Max	Sum	Mean	Percent
-ara/-aros/ -aro	94	0	12	577	6.14	87.03%
-ukla	94	0	9	27	.29	4.07%
-aras	94	0	2	4	.04	0.60%
-ura/ -uras	94	0	3	14	.15	2.42%
-a	94	0	4	15	.16	2.50%
-OS	94	0	1	3	.03	0.22%
-ona	94	0	1	1	.01	0.20%
-araros	94	0	2	4	.04	0.25%
other endings	94	0	3	18	.19	2.71%
Valid N (listwise)	94					

Table 16:	Augmentative	endings for	EG1/	' post-test



Marina Tzakosta (martzak@edc.uoc.gr, martzak74@gmail.com) is Professor of Language Development and Pedagogy of the Preschool Child at the Department of Preschool Education, University of Crete, Greece. Her research interests expand to the development of L1s – including bilingualism, and L2s, language teaching, language disorders, language contact, language change, dialectology and dialectal education. She has been awarded several research grants and scholarships by the European Commission, the Greek State Scholarships Foundation, The John S. Latsis Public Benefit Foundation, the Stanley Seeger Center for Hellenic Studies – Princeton University, the Research Committee of the University of Crete.

Chrysavgi Dertzekou (chrderz@gmail.com) holds a B.A. from the Department of Preschool Education of the University of Crete and is currently an MA student working on a thesis on the acquisition of Greek derivation by preschoolers. She has participated in various research projects and has been the co-author of various papers. She has been awarded the Research Committee of the University of Crete scholarship for Excellence two times during her MA studies.

Georgia Panteloglou (gpanteloglou@gmail.com) holds a B.A. from the Department of Preschool Education of the University of Crete and is currently an MA student working on a thesis on the acquisition of phonological structures of Greek by preschoolers. She has participated in various research projects. She has been awarded the Research Committee of the University of Crete scholarship for Excellence once during her MA studies.

