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The Spelling Mistakes of Young Greek EFL Learners: A Descriptive Case Study

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Abstract

A constant challenge for Greek primary EFL teachers is the large number of spelling mistakes in their learners' written performance. Teachers usually feel helpless in understanding and remedying this problem due to non-existent research outputs in the realm of the spelling of Greek young EFL learners. Within this context, the researcher was stimulated to study the particular problem as an English teacher and educational researcher working on SLA. A descriptive case study was conducted into the spelling mistakes of a class of 11-year-old Greek primary EFL learners at pre-intermediate proficiency level in a total of eighty free compositions. The aim was to throw light on the learners' IL in terms of error types and spelling processes, reach a detailed description of the problem within the boundaries of the single EFL class and understand the parameters that may give rise to it. Results suggest four main error categories and seventeen sub-categories. They also prove the operation of classic SLA strategies in the acquisition of EFL spelling by children too, of idiosyncratic strategies characteristic of Greek young EFL learners and of learning processes common to Greek and Japanese EFL learners of different age.

Keywords

1. Introduction

Extensive primary TEFL experience has shown that the acquisition of the English spelling system places huge demands on Greek EFL learners, who make up for the spelling knowledge not acquired yet by resorting to a variety of erroneous graphemic combinations. Unfortunately, primary Greek EFL teachers often feel helpless in understanding and remedying these mistakes as a result of nonexistent research in the domain of the spelling of

Greek EFL learners. On the basis of this situation, the interest arose in the investigator as a primary EFL teacher and educational researcher to study this educational issue. Specifically, the research aimed to shed light on the learners' version of the target language (TL) [1], or their so-called "interlanguage" (IL) [2]. By illuminating their IL, the research also aimed at specifying the error types made at a certain stage of the GYEFLWs' second language acquisition (SLA) process, and the mental processes involved so as to help the teacher of the particular class to understand the possible factors that may hinder acquisition.

Before proceeding with the research specifications and data, readers are provided below with comparative elements between the Modern Greek (*i.e.* L1) and English (*i.e.* L2) spelling systems to perceive the cognitive difficulties Greek EFL learners are faced with in the acquisition of the English spelling system.

2. The Greek and English Spelling Systems

The English writing system (WS) and the Modern Greek one are both alphabetic languages [3]. As such, each one utilizes a certain type of alphabet (the Roman and Greek alphabets respectively), the letters of which distinguish meanings [4], by contrast to non-alphabetic languages like Japanese, in which text symbols represent syllables, or traditional Chinese, in which each symbol represents a whole word [5]. One of the elements of the English WS proved to be particularly complex and thus challenging, stressful and often demotivating for Greek children of all primary ages is the acquisition of the English orthography, *i.e.* of the set of rules governing the use of the Roman alphabet [3].

A similarity between the L1 and L2 orthographic systems can be said to facilitate the acquisition process. Specifically, in both of them the basic graphemic unit is the letter and the correspondence is between graphemes and phonemes [4]. As a result, Greek EFL learners show a readiness to represent English sounds with certain graphemes due to their awareness of the fact that spoken words consist of phonemes (phoneme awareness) [5], and "that phonemes can be represented by letters, such that whenever a particular phoneme occurs in a word, and in whatever position, it can be represented by the same letter" (function of the alphabetic principle) [6].

Nevertheless, significant differences between the two systems challenge Greek EFL learners. Firstly, in Modern Greek there is a more regular phoneme-grapheme correspondence. Secondly, in the Greek spelling system there are no silent letters. Last, but not least, native speakers are used to representing in their L1 a smaller number of phonemes than those in English; in Modern Greek there are thirty (30) phonemes, seven of which are dipthongs [7], whereas in English there are forty-four (44), eight of which are dipthongs. Moreover, in their L1 there is basically a bi-unique relation between phonemes and graphemes, with the sounds /e/, /i/ and /o/ being the main exceptions to the rule, as they can be represented with more than one grapheme. Namely:

- /e/ with <ε> (as e.g. in <ελάφι>) and <αι> (as e.g. in <Αινείας>),
- /i/ with <ι> (as e.g. in <τραπέζι>), <η> (as e.g. in <ήλιος>), <υ> (as e.g. in <ύστερα>), <ει> (as e.g. in <είναι>), <υι> (as e.g. in <μυίγα>) and <οι> (as e.g. in <μοίρα>), and
- /o/ with <ο> (as e.g. in <όλα>) and <ω> (as e.g. in <ώσπου>).

English spelling, however, is claimed to be characterized by a "marked degree of irregularity" [8] as the alphabetic representation is frequently not based on a simple phoneme-grapheme relation. So, besides having to acquire knowledge of the large number of English phonemes and of the representation of each one by a certain grapheme, Greek EFL learners are also faced with learning spelling irregularities, like when one phoneme is represented by two graphemes (e.g. /hel/ → <he**ll**>, /ɪnstæd/ → <inst**ea**d>), or a dipthong by one grapheme (e.g. /feɪməs/ → <f**a**mous>), and when graphemes represent no sound at all (e.g. <grap**e**> → /greɪp/). They also have to develop awareness of the correspondence of the typical diagraph <th> to different phonemes (e.g. /ð/ as in <this> or /θ/ as in <theory>) and learn the cases in which an English phoneme is represented with a number of different graphemes; like /ə/ which can be represented with <a> (as in <**a**pology>), <e> (as in <clev**e**r>), <i> (as in <par**i**ty>), <o> (as in <litt**o**ral>), or <u> (as in <vol**u**ntarily>). Similarly, they have to grapple with the employment of one grapheme for the representation of a number of different phonemes, like <a> which can represent /ə/ (as in <**a**side>), /æ/ (as in <c**a**t>), /ɑː/ (as in <p**a**rt>), or /eɪ/ (as in <h**a**te>).

The complexity of the relationship in English between phonemes and graphemes is increased further by the operation of the following principles [4]:

1) Etymological spelling, *i.e.* preserving graphically the etymologies of words, but neglecting related pronunciation issues (e.g. "breakfast" is still spelt with <ea> because it is etymologically related to the verb "break", though in its spoken form the first two vowels are pronounced /e/ and not /eɪ/ as in the verb).

2) Paradigmatic similarity, *i.e.* preserving the graphic identity of a morpheme or word by e.g. neglecting vowel and consonant alternations which are predictable from general morphophonological rules (e.g. in <anxiety> <x> has been retained, although a shift has occurred in the pronunciation of this consonant in the relevant root morpheme in <anxious> (*i.e.* from /ks/ to /gz/).

3) Homograph avoidance, *i.e.* violating the strict phonemic representation in order to incorporate semantic information in the graphic representation (e.g. <bear> vs <bare>, <blue> vs <blew>, <no> vs <know>, <rain> vs <reign>).

4) Loan word identification, *i.e.* preserving the source language orthography, but pronouncing the loan words as if they were English.

3. The Research

3.1. Research Type

Case study (CS) was selected as the most appropriate tradition for small-scale research because by definition it permitted situating the investigation in one "particular unit" [9], which as a case bore the features of specificity, contemporarity and naturalness, uniqueness and boundedness [10], it allowed involving a small number of respondents compared to the large number of participants in quantitative research [9] without putting the validity and worth of the research at stake, and like non-experimental qualitative inquiry and "noninterventive" research [11] enabled the study of the respondents' authentic, nonmanipulated outcomes [12].

In broad terms, this CS belongs to the general fields of second language acquisition (SLA) research and of Second Language Writing Systems (L2WS) research [3]. It embraces the tutored, classroom acquisition of EFL and falls within the paradigm of Error Analysis (EA), which involves the comparative description of the learners' IL and the TL and the study of erroneous utterances by groups of learners with a common L1 [1]. As such, it was intended to provide through the learners' encoding errors "windows" to the inner mental processes they engaged into actively while spelling English lexical items and to the internal IL reality of the learners' minds for the purpose of identifying what the learners are still ignorant of and how they try to face this ignorance [1]. In light of the principles of EA and the criteria of modality, medium and level [1], the study focused on the learners' misspellings, *i.e.* their written, productive EFL errors at the level of the graphological substance system during their performance for communicative purposes.

Within this study, "performance" is defined as a stage of the L2 acquisition continuum at which learner-writers were given the opportunity to try out the language knowledge acquired and through their language output, possibly erroneous, to get feedback about their learning and to set new goals for the near future. The IL reflected in this language output is defined as the spelling system the children had constructed at the specific stage of their development, which was independent of their L1 and of the L2 system they were trying to acquire [13].

3.2. Methodology

The respondents were a primary class of ten pre-intermediate GYEFLWs aged 11, equally represented in terms of sex. They were attending their fourth year of EFL learning, some of them had just started learning French as a second foreign language at school, and none of them was identified by the teacher and the foreign language institute as having any special learning difficulty.

The research instruments were eight fifteen-minute free compositions performed by each learner (in total, eighty short written texts). As the least controlled of all elicitation procedures [14], the instrument was intended to minimize the researcher's and the teacher's intervention and imposition of any constraints on the learners' production and maximize their individual spontaneous written responses, and hence collect "naturally occurring" errors [15]. The topics were familiar to the children, were chosen by the class teacher, who was believed to know the themes and the language syllabus covered, and were based on the coursebook material to encourage the production of taught spellings.

The writings were performed in class at the teacher's presence to ensure that the children devoted equal time to them, that no reference material like dictionaries or coursebooks were consulted, and that each learner worked individually and did not copy from others. Before the task, instructions were checked to increase task understanding. The researcher was absent during the task so that her presence would not influence child performance.

To help the GYEFLWs reveal most of their spelling potential, they were kept unaware of the research focus

while writing; it was only after task completion that they were informed about the research and the need for the study of the misspellings of Greek EFL learners. All the children and their parents gave their informed consent to the study of the learners' anonymous compositions prior to the study of the learners' texts.

Finally, to eliminate the danger of including in the typology lapses and not errors, the class teacher was asked firstly to certify that the misspellings identified constituted regular occurrences in the learners' written production and secondly to ensure that they were not self-corrigible by giving back each composition to the learners with the erroneous forms underlined and encouraging them to correct the mistakes. In light of Widdowson's [16] and James's [1] claims about differences between errors and lapses, learner inability to access prior language knowledge to correct errors was expected, which was what ultimately happened.

As a study that falls within EA, it followed the procedure suggested by Corder [17], *i.e.* selection of a corpus of language, error identification and classification, and error explanation. The descriptive taxonomy applied at the graphological level for the purpose of error categorization is mainly James's Target Modification Taxonomy [1], which is based on the ways in which the learners' erroneous graphemic forms are different from the TL version. Consequently, the primary taxonomic criterion was the observable fact about how the learners had modified the spellings to cope instantly with their ignorance of the TL, a criterion which was hoped to bring us also to the identification of the underlying spelling learner strategies employed.

Because the study of these data made it imperative that L1 was employed to fully describe learner errors, the particular EA also involved transfer analysis (TA) as "a sub-procedure applied in the diagnostic phase of EA" [1] facilitating the comparison of IL with L1.

For analytic and interpretative purposes, the researcher employed the native speaker's knowledge of the L1 spelling system (*i.e.* of Greek) and awareness of the mental processes involved in the respective spelling process. Moreover, as a proficient EFL learner and experienced primary EFL teacher, she employed knowledge of the L2 orthography, as well as personal experience with difficulties encountered by Greek EFL learners at all language levels and ages and with the employment of compensatory learner spelling strategies.

While studying and analyzing errors, it was also decided that no attention would be given to other kinds of mistakes, like those related to vocabulary, grammar, punctuation and capitalization, and that free variations of spelling forms would not be treated as errors (e.g. <travelling>/<traveling>). Also, those cases of spelling mistakes would be excluded in which the handwriting was illegible, and in which the researcher could not be certain whether the mistake was due to the wrong selection of a word item or to spelling (e.g. *Calamity Jane was very ill and after little time she *dead*.).

4. The Data

Errors are categorized into classes and are formulated as something in ways that "suggest a matching relationship between the specific state of affairs" (*i.e.* each particular case of errors) "and the corresponding verbal representation, such that the former is identifiable on the basis of the latter" ([18]; in [9]). As a purely descriptive study, the frequency of error occurrence was not among the research objectives.

The data led to five broad descriptive error categories; *i.e.* of omission errors (where a grapheme is left out), of addition errors (where a grapheme is added unnecessarily), of substitution errors (where a grapheme or a whole word is replaced with another), and of misordering (where one or more graphemes are positioned in the wrong place within a graphemic representation). These categories were further divided into a total of seventeen sub-categories. Namely, under omission errors learners were found out to reduce consonants (two- or three-consonant clusters to fewer letters, or double consonants to a single one), or to reduce vowels (two- or three-vowel clusters to fewer letters, double vowels to a single one, or dropping of the final <e>). Regarding addition errors, the data revealed the reproduction of an internal grapheme, the doubling of the final consonant (in nouns and adjectives, and in infinitives preceding the -ing inflection), the doubling of a medial consonant and the addition of a grapheme at medial/final position. Substitution errors were divided into errors involving consonant/vowel substitution, the interchangeable use of graphemes for the same sound, the employment of homophone spellings, and French-based spellings. Finally, misordering was analyzed into inversion and antimetathesis.

The respective cases of errors are presented below. Sample TL spellings appear next to each error for the purpose of not only helping the readers to understand what the learners intended to write, but also of providing evidence through which the categorization can be attested and, consequently, the description can acquire an objective status. Where two or more error types have occurred within the same word item, this word may appear

under more than one category. Errors which could not form a separate category are not presented.

A. Omission errors

A.1. Consonant reduction

A.1.1. Reduction of two- or three-consonant clusters to fewer letters; *i.e.* li**s**en (<listen>), **w**ale (<whale>), ata**k**ed (<attacked>), e**x**ellent (<excellent>), wa**ch**ed (<watched>), su**pr**ise (<surprise>), **s**ow (<show>)

A.1.2. Reduction of double consonants to a single one; *i.e.* li**t**le (<little>), di**n**er (<dinner>), ca**l**ed (<called>), pa**s**ingers (<passengers>), acro**s** (<across>), ho**b**ies (<hobbies>), su**d**enly (<suddenly>)

A.2. Vowel reduction

A.2.1. Reduction of two- or three-vowel clusters to fewer letters; *i.e.* gr**u**ps (<groups>), bur**e**d (<buried>), s**a**lors (<sailors>), b**ea**tiful (<beautiful>), h**a**rt (<heart>), fr**e**nds (<friends>), Brit**a**n (<Britain>), t**o**st (<toast>)

A.2.2. Reduction of double vowels to a single one; *i.e.* sal**o**n (<saloon>)

A.2.3. Dropping the final <e>; *i.e.* continiu (<continue>), tim (<time>, hous (<house>), sur (<sure>)

B. Addition errors

B.1. Reproduction of an internal grapheme; *i.e.* ano**n**ther (<another>), s**w**adwich (<sandwich>), athlet**h**ic (<athletic>), A**n**tlantic (<Atlantic>), c**o**ould (<could>)

B.2. Doubling the final consonant

B.2.1. In nouns and adjectives; *i.e.* anusua**ll** (<unusual>), schoo**ll** (**<**school>)

B.2.2. In infinitives preceding the-ing inflection; *i.e.* sai**ll**ing (<sailing>), shoo**tt**ing (<shooting>)

B.3. Doubling a medial consonant; *i.e.* clos**s**ed (<closed>), Ro**bb**inson (<Robinson>), busin**n**es (<business>), sa**ll**oon (<saloon>), ca**ff**eteria (<cafeteria>), Bri**tt**an (<Britain>)

B.4. Adding a grapheme at medial or final position; *i.e.* clo**u**se (<close>), supr**a**ise (<surprise>), w**h**ith (<with>), too**c**k (<took>), Antadic**k** (<Atlantic>), got**e** (<got>), cofine (**<**coffin>), finish**e** (<finish>), with (<with>)

C. Substitution errors

C.1. Consonant substitution; *i.e.* jum**b**ed (<jumped>), excellen**d** (<excellent>), bar**g** (<bark>), un**g**ls (<uncles>)

C.2. Vowel substitution; *i.e.* ch**e**rch (<church>), cott**e**ge (<cottage>), S**u**terday (<Saturday>), s**e**y (<say>), l**u**nded (<landed>), h**a**use (<house>), pas**i**ngers (<passengers>), r**ee**d (<read>), n**ia**r (<near>), st**i**ring (<steering>), **o**gust (<August>), y**o**cht (<yacht>), c**o**lled (<called>), sm**o**l (<small>), sh**ou**t (<shoot>), bl**ou** (<blue>)

C.3. Interchangeable use of certain graphemes for the same sound; *i.e.* ra**s**e (<race>), **c**everal (<several>)

C.4. Employment of homophone spellings; *i.e.* new (<knew>), by/bye (<buy>), buy (<by>), meat (<meet>), sale (<sail>), peace (<piece>), where (<were>)

C.5. French-based spellings; *i.e.* historie/storie (<history/story>), Atlantique (<Atlantic>), leçons (<lessons>), actrice (<actress>), Athenes (<Athens>)

D. Misordering

Two basic sub-categories emerged; namely, *inversion*, *i.e.* when the order of two adjacent graphemes is inverted, and *antimetathesis*, *i.e.* when two not adjacent graphemes are moved to each other's place.

D.1. Inversion; *i.e.* cava**lr**y (<cavalry>), doe**ns**'t (<doesn't>), s**hc**ool (<school>)

D.2. Antimetathesis; *i.e.* co**s**t**u**mer (<customer>)

5. Discussion

In general, the error taxonomy can be said to comprise detailed, rich evidence of what proves to be a rather problematic procedure for the specific Greek young EFL learners. In particular, it can reflect the learners' knowledge gaps in L2 spellings and the mental functions these learners performed to represent graphically L2 spellings they were ignorant of. Last, but not least, these functions can, subsequently, help us to also gain insight of the kind of existing knowledge the children employed to overcome their spelling problems.

5.1. Spelling Errors as Strategic Mental Functions

From a functional perspective, these errors can be regarded as strategies in the general sense of the Greek root of the word; *i.e.* as modes in which actors handle the demands of a situation to satisfy a need of theirs. Given that during writing the learners' work was autonomous, these strategies may also reflect child ability for "active, self-directed involvement" in the "planning, ..., manipulation, and movement toward a goal" [19].

Within the context of the specific case, the spelling errors can be considered in particular a compensatory learner strategy, which the children employed to overcome their deficiency in reproducing the accurate visual image of a word. Also, from the perspective of the communication goal the children were trying to achieve while writing, they can also be perceived as communication strategies [20], *i.e.* as psycholinguistic plans, part of the language user's communicative competence, which help learners find alternative means to express themselves when they cannot implement the communication in the intended way [13].

Moreover, the particular case-study taxonomy may also reinforce Widdowson's claims about errors as manifestations of language simplifications for communicative purposes [16], which claims although developed with reference to the use of discourse, can acquire a more general significance and be applied to the acquisition of foreign language spelling too. Specifically, the data can confirm Widdowson's operation of simplification on usage, *i.e.* the process whereby "the simplifier" focuses on replacing language elements with "approximate... equivalents in his/her IL omitting whichever items prove intractable, thereby bringing the language of the original within the scope of his/her transitional linguistic competence" to turn it into an effective communicative instrument.

Indeed, in most of the resulting categories, we can see that behind functions like omission errors, vowel/consonant substitution and French-based spellings there lies the learners' effort to use learnt language data for the creation of spellings which, from their perspective, enhance at the particular instance the speed of their production and thus serve their communicative purposes in a way they consider simpler. Nevertheless, addition errors may show that not all errors should be regarded as simplifications, as the learners' improvised output in this error category proved more complicated than the original spellings.

5.2. Confirmation/Expansion of Former Research Outputs

Each one of the broad categories of the resulting error taxonomy reinforces the operation of basic SLA functions claimed by other SLA researchers and extends their applicability to the acquisition process of the English orthography. Also, the large number of the sub-categories can provide a picture of the evidence for the occurrence of idiosyncratic spelling processes in the Greek children's IL.

For instance, the taxonomy confirms Dulay, Burt and Krashen's [21] three classic modes of addition, misordering and omission. The omission category reinforces the operation of Faerch and Kasper's [20] main communication strategy of avoidance in the GYEFLWs' spelling acquisition process, where "avoidance" is meant to denote the way in which word forms are reduced to fewer letters by leaving out one or more graphemes. Regarding addition, evidence showed that Dulay, Burt and Krashen's function of regularization occurred in the investigated case too, when the children doubled the final consonant in the infinitive of verbs before adding the inflectioning. This spelling function can be triangulated with teaching experience during practice tasks in Greek primary EFL classes, where the children normally tend to generalize the application of the rule about the doubling of the particular consonant in monosyllabic verbs that end in a consonant-vowel-consonant cluster.

What is more, however, is that the data resulted in the description of another three addition sub-functions applicable in the Greek children, beyond Dulay, Burt and Krashen's one, *i.e.* the reproduction of an internal grapheme, the doubling of a medial consonant, and the addition of a grapheme at medial or final position. As a result, it enriched our knowledge about a multitude of ways in which GYEFLWs may change, through addition, TL spellings. Furthermore, a comparative study of the CS data with data from research involving adult Japanese EFL writers-learners (JEFLWs) [15], *i.e.* learners of a different age and L1 background, showed that the particular Greek children undergo the same processes of addition/insertion and substitution during EFL writing. Nevertheless, unlike adult Japanese EFL learners [22], the additions of the Greek children did not imply any preference for the use of 'epenthetic vowels' to turn consonant clusters into consonant-vowel-consonant clusters, as they were limited to the simple insertion of graphemes.

As far as substitution is concerned, the relevant subcategories can also confirm James' "misselection" function [1], in the sense that the Greek children substituted the genuine graphemes with erroneous ones by making wrong graphemic choices for their representation. In particular, James' misselection (called "substitution" in this project) was further specified by error types indicating an explicit tendency of the young participants to substitute particular consonants (C), vowels (V), sets of vowels (VS) and whole words. Regarding consonant substitutions, plosive voiced consonants were mainly employed instead of voiceless ones mostly in word-final position;

i.e. <b> replaced <p> (bilabial), <d> replaced <t> (alveolar), and <g> replaced <k> (velar). The specific substitution errors reflect confusion in GYEFLWs with contrastive pairs of letters and sounds. In light of the fact that such a confusion was observed in the spelling errors of Okada's adult JEFLWs too [15], a more generalized difficulty may be perceived, independent from learner ages and L1 backgrounds, in the recognition of the differences between related voiced/voiceless sounds and subsequently between their orthographic representations.

Vowel substitutions were another interesting area in the substitution error category. Although error frequency was not the aim of the CS, vowel substitutions obviously exceeded in number the ones involving consonants, which may be put down to the comparatively irregular correspondence in the English spelling system between a vowel sound and its respective grapheme. A careful study of the V and VS substitutions revealed the following tendencies in the Greek young respondents: <a> replaced <e>, <u> or <o>, <e> replaced <i>, <o> was used instead of <a> and <u> instead of <a> or <e>, <au> instead of <o>, <ea> instead of <ee> or <ia>, <ee> instead of <i> or <ea>, <oo> instead of <ou> and <ue> instead of <ou>.

With regard to addition and substitution errors, the addition of a final <e> and the employment of French words can confirm the operation of Faerch and Kasper's [20] achievement, non-cooperative communication strategy in the specific learners, as this is reflected in the performance of the:

1) L3-based code switching strategy [20], when learners changed code by retrieving to the use of French words; however, it was observed that this occurred only where the English and the French items had the same origins.

2) L3-based foreignizing strategy [20], when the children tried French spellings in English with minimal adaptation [22], e.g. by adding the French—e ending.

However, errors resulting from the employment of the latter indicate a possible lack of awareness of the difference final <e> makes in pronunciation and meaning (as in *<tim>, which was used as an alternative of <time>).

5.3. Employment of Strategies of Good Spellers

This CS also led to the conclusion that the Greek children employed the analogy and the phonemic strategies of good spellers [8].

The analogy skill of good spellers is defined as the ability to relate an unfamiliar graphemic representation of a word to known ones in visual memory so as to identify analogies in the orthography and spell the word in a similar way. The employment of this skill by the children can be exemplified with the process of L3 interference, where the French vocabulary stored in some learners' mental lexicon provided them with the analogous French visual image of an English word. Other examples can be found in the addition errors, where the operation of Dulay, Burt and Krashen's regularization process [21], or Selinker's overgeneralization of TL rules in IL [2], can be observed in the creation of new forms.

In respect to the phonemic strategy of good spellers, the errors show a persistent tendency in the children to use their phoneme awareness, *i.e.* firstly, their knowledge that words as abstract units have a phonological identity (*i.e.* acoustic, articulatory and phonemic properties) [23] and are constructed from a clearly separate set of abstracts units or phonemes [5], and secondly their deliberate and intended ability to handle these units skillfully. Thus, James *et al.*'s types of phonemically motivated misspellings [24] were confirmed.

The first obvious examples of the use of the phonemic strategy come from the omission errors. The participants obviously influenced by the alphabetic principle operating in Greek and by the bi-unique relation between phonemes and graphemes, simplified vowel/consonant combinations. This was done by leaving out the graphemes that do not represent an articulated sound in the oral form of the word they wished to spell and by using those letters only that, in their view, could transcribe graphemically the spoken unit(s) of the word adequately.

Also, the children's interchangeable use of <s> and <c> for the representation of the /s/ sound under the substitution errors can indicate that as spellers they first tried to process the identity of the target sound /s/ and then accessed and activated their still subconscious awareness of the English sound-to-symbol rule about the representation of the alveolar fricative /s/ in word medial and word initial position equally by both graphemes <s> and <c> (e.g. word medially as in <piece>, <use> and <case>, and word finally as in <set>, <cease> and <self>).

An abundance of similar "written misencodings" (*i.e.* wrong selections of graphemes for specific phonemes) [24] was also observed in V and VS substitutions, as shown in **Table 1** below.

Table 1. Written misencodings in V/VS substitutions.

Written misencodings in V/VS substitutions			
Phoneme *represented*	Grapheme replaced	Erroneous grapheme	Examples and TL spellings
/ə:/	<u>	<e>	exc**u**rsion <excursion>
/ə/	<a> <u>	<e>	veget**e**bles <vegetables> Sut**e**rday <Saturday>
/e/	<a>	<e>	s**e**y <say>
/æ/	<a>	<u>	l**u**nded <landed>
/a/	<o>	<a>	h**a**use <house>
/ʌ/	<u> <o>	<a>	**a**nusuall <unusual> **a**ther <other>
/i/	<e>	<i>	pas**i**ngers <passengers>
/i:/	<ea>	<ee> <ia>	r**ee**d <read> n**ia**r <near>
/iə/	<ee>	<i> <ea>	st**i**ring <steering> ch**ea**r <cheer>
/ɔ:/	<au> <a>	<o>	**o**gust <August> sm**o**l <small>
/ʊ:/	<oo> <ue>	<ou>	sh**ou**t <shoot> bl**ou** <blue>

Similarly, in the substitution of plosives referred to above, there is an obvious effort of the children to associate the target grapheme with the phoneme it represents. However, due to the children's unawareness of the differences between voiced and voiceless consonants with the same place of articulation, the target graphemes were mispronounced. Consequently, mispronunciation spelling errors occurred [24] by accessing graphemes that represented the target sound wrongly.

There were, nevertheless, cases of error where the operation of both skills of good spellers was observed. One such case was e.g. the employment of homophone spellings. From these errors, it can be understood that, after specifying the sound(s) the writers wanted to spell, they failed to differentiate between two L2 words that have the same pronunciation but different meaning (James *et al.*'s "homophone confusion") [24], making thus an intralingual misencoding error. Also, spellers represented the pronunciations of /w/ and /k/ graphemically in analogy with their representations as <wh> and <ck> respectively in other similarly pronounced syllables they knew (e.g. <whi-> in *<whith> was spelt in analogy with <whi-> in <whisper>, <wha-> in *<whaves> in analogy with <whales>, or <ck> in *<Atlantick> in analogy with <ck> in <Frederick>).

5.4. L1 Transfer in the Acquisition of EFL Spelling

A close study of the research findings reveals the application of Selinker's function of language transfer [2], *i.e.* the use of L1 as a basis for hypotheses formation about the TL [13]. As a result, one can claim that the research can contribute significantly to the inclusion of spelling into the linguistic levels which, according to Towell and Hawkins [25], are affected by L1 transfer and to the confirmation of their belief that "Transfer of linguistic properties from a(n)... L1 into the L2 is a pervasive feature of SLA."

In the specific GYEFLWs, L1 transfer seems to facilitate the operation of the above skills of good spellers. Specifically, within the young learners' tendency to heavily rely on the phonological route to spelling, the use of the L1 bi-unique phoneme-grapheme correspondence seems to be extended to the EFL spelling process too. This is e.g. evident in the cases of omitting English letters which are not pronounced, as in Greek. Also, the learners transferred phonological L1 properties to the EFL spelling process and so represented graphemically the qualities of English phonemes with letters that are phonemically closer to the Greek approximation of the pronunciation of the particular English vowels or consonants. For instance, they employed <e>, <a> and <ou> to spell

*<cherch>, *<ather> and *<blou> because these letters are closer to the Greek pronunciation of the relevant phonemes /ə:/, /ʌ/ and /ʊ/ respectively.

Moreover, there are cases in which the children spelt an English word in analogy with the pronunciation of the respective Greek loan word, employing thus both their analogy and phonemic skills. A first example can be the reduction of vowels and consonants in <sandwich>, <groups> and <toast>, as a clear indication of the priority the learners gave to the selection of graphemes that represent a consonant or vowel sound that is dominant in the respective syllable of the equivalent Greek loan word. So, <sandwich> was spelt *<swa**d**wich> to match the main /d/ sound in the respective Greek /'sadouits/, <groups> was spelt *<gr**u**ps> in analogy with the main vowel sound /u/ in the Greek /grups/, and <toast> as *<tost> in analogy with the pronunciation of the Greek /tost/.

6. Conclusions

The research was stimulated by the wish to shed light on the misspellings of a group of Greek young EFL writers and tease out the complexities of their mistakes by presenting them in a taxonomy that could indicate the underlying spelling operations and the possible causes of errors. Hence, a CS was conducted, and EA was employed in the form of descriptive research into the spelling IL of the children. The EA stages of error identification, classification and explanation were carried out in light of the researcher's knowledge and experience as a native speaker of Modern Greek, a proficient EFL learner and speaker and an EFL teacher. For the purpose of error categorization, the Target Modification Taxonomy [1] was applied.

The study confirmed that the English spelling is a complex procedure for the learners, extending beyond the mere sound-grapheme representation in L1 to the employment of knowledge about L1, English as a TL and other L2 learnt through the operation of mental strategies. The study also reached psycholinguistic error taxonomy generalizable to the particular group of learners and characteristic of their spelling IL at the specific stage of their acquisition route and of their mental behaviors.

The resulting taxonomy comprised four main error categories and a total of another seventeen sub-categories. It also provided a picture of the GYEFLWs' spelling process as the employment of a number of strategic operations for the purpose of managing written communication in English. The four broad error categories confirm former SLA research outputs too. What is more, the data extend the validity of the conclusions of past SLA studies in the area of the acquisition of the EFL spelling too, especially by Greek children, and expand them through the resulting sub-categories. So, food for thought is given to SLA researchers for the probable need to research the applicability of these new sub-categories in various other cases of SLA besides that of EFL spelling. Future research in spelling can also be guided by the observation that GYEFLWs go through processes similar to those of adult Japanese EFL writers [15], as this implies that there may be common spelling EFL problems and processes in EFL learners independent from L1 background and age.

In terms of internal mental processing, the study revealed the occurrence of information processing mainly at the level of the phoneme-grapheme relation. Moreover, indications point towards the employment of phoneme awareness and awareness of the alphabetic principle [5] by the children. However, imprecise knowledge of the pronunciation of a lexical item and/or lack of knowledge of the systematic relationship between the internal structure of the written and spoken target word were proved to cause many erroneous orthographies.

Data analysis drew our attention to the use of the phonemic and analogy skills of good spellers by the child respondents and to the spellers' main focus on the phonemic and orthographic identity of the lexis. Last, but not least, the data strengthen Towell and Hawkins's [25] claim for L1 transfer as a pervasive feature of SLA and support the inclusion of EFL spelling into the linguistic levels affected by the influence of the mother tongue. However, according to TEFL experience in Greece, the interference of the phonological properties of L1 at the level of the specific young learners was not as extensive as it is usually at earlier stages of the primary EFL learning route in Greece, which may imply the possible role that the quantity and/or quality of tutored EFL learning may have played in the restriction of L1 interference in the acquisition of the TL spelling system. Nevertheless, to specify whether and to what extent L1 interference in the acquisition of TL spelling decreases as the learner's TL knowledge and language experience increases, longitudinal qualitative EA studies are needed "following learners over a period of time" [22]. These studies may benefit from the employment of additional sources of data, like in-depth interviewing with teachers and learners, learner introspection and observation of a large number of lessons.

The research can be considered, within the limited investigation on the acquisition of the EFL spelling by

young learners, a seminal step towards the enrichment of linguistic knowledge about the nature of the spelling IL of young EFL learners and, specifically, about the kinds of errors made and the strategies employed.

Although as EA it may be said to provide a partial picture of SLA by focusing only on part of the English language the learners produce at a single point in time and thus support the negative evaluation of EA in the relevant literature [13], the study can provide SLA research with an additional corpus of evidence confirming the claims that the L2 learners' development towards the target language is staged [25], and that L2 learners construct at any given point of this development a structured system, *i.e.* their IL [13]. Furthermore, it can enhance Corder's view of errors as proof of internal mental processing [26] and Chomsky's mentalist framework of SLA [27], and extend the validity of the above claims to the acquisition of the L2 spelling system, which so far has not been given adequate research attention.

As research conducted within the CS tradition, it contributed to the formation of evidence-based statements about spelling problems truthful to the contexts of the individual case investigated (petite generalizations or particularizations) [11]. Moreover, through the documentation of the features of the problem in the specific case and their discussion, it is hoped that readers-EFL teachers who may be facing similar spelling errors in their classrooms may become able to generalize the knowledge they have acquired in their own contexts too, and so develop an understanding of their learners' spelling problems and inform their teaching techniques quantitative generalizations.

The findings may stimulate the extension of the current research at national level to a larger number of child respondents with the same profile to examine whether there is a systematicity of error categories and spelling strategies in these learner ages and this EFL language level. One can also extend EA to EFL learners of the same age and level worldwide to examine whether there is universality in spelling errors and strategies, in the sense of misspellings and mechanisms common to all the learners, as it is the case in the acquisition of other linguistic aspects like grammar, vocabulary and syntax [25]. Another possibility that also opens up is the comparative study of these data with the spelling errors and strategies used in the acquisition of L1 (*i.e.* Greek) to examine whether SLA evidence can support the function of the same spelling mechanisms with those in L1 or of alternative ones. As James states [1], there is surprisingly little clear evidence in this area.

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