

The Role of Phonological Strategies in Learning to Spell in English as a Foreign Language

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Abstract: *The paper outlines the role of phonological strategies in learning to spell in English as a second language. It presents and analyses a corpus of spelling errors of Bulgarian primary school pupils who learn English as a foreign language. Based on the cross-linguistic comparison of the English and of the Bulgarian grapheme-phoneme correspondences (vowels and diphthongs) and on the excerpted errors it justifies the need for consistent instruction regarding the English spelling system.*

Key words: *English Writing System, L2, Primary pupils, Bulgarian learners of English, Error analysis*

INTRODUCTION

The acquisition of the English spelling by Bulgarian learners during their first years of primary school education is a significant concern for both teachers and learners. For teachers the development of learner's L2 orthographic competence has always been considered a sound basis for further literacy learning as it enhances pupils' reading skills by "extending and reinforcing children's phonemic, orthographic and morphemic knowledge" [2:3]. For learners the development of their spelling knowledge and skills in the target language involves not only the learning of the L2 graphic symbols, which are quite different from the graphemes of their L1 writing system, but also the development of an ability to connect sounds in the target language with visual symbols.

In the case of Bulgarian 8-10-year-old children, who start learning English in grade 2 after they have made the mental connections between letters and sounds in their L1 during their first year at school, we could claim that they have developed phonological strategies (for sound-letter relationships) that they use when spelling Bulgarian words. Based on this assumption and on the idea that L1 literacy skills and strategies can be transferred to the foreign language, we can state the following hypothesis: *Bulgarian primary school pupils would rely mostly on phonological strategies when learning to spell in English.*

In the light of this hypothesis the current paper aims to explore whether the phonological strategies which Bulgarian 8-10-year-old pupils have acquired are adequate for identifying the characteristics of the contemporary English orthographic system.

LEARNING TO SPELL IN ENGLISH AS A FOREIGN LANGUAGE

The process of building initial L1 literacy skills of Bulgarian primary school pupils includes the "acquisition of basic empirical knowledge of the structure of language and speech units, of some of the rules for correct spoken production, spelling, punctuation and grammar" [10:2]. As stated in the Curriculum for Bulgarian Language and Literature for grade 1 [10] Bulgarian children's reading and writing skills are developed in view of the analytical and synthetic method of literacy, which involves the acquisition of sounds based on their acoustic and articulatory characteristics. The Bulgarian sounds and the respective graphemes are introduced in the following order: the vowels / а, ъ, о, у, е, и /, the sonorants / м, н, л, р /, the glide / й /, the consonants in minimal pairs based on the distinction voiced-voiceless / б, п, в, ф, д, т, з, с, ж, ш, г, к /, the combination of letters < дж > for the representation of the sound / дʒ /, the letter < ч > for the sound / tʃ /, the combination of letters < дз > for the representation of the sound / dz /, the letter < ц > for the consonant < ts >, the grapheme < х > for the sound / h / which has no voiced correlate, single letters that represent two sounds < щ > /ʃt/, < ю > /ju/ and < я > /ja/, the compound sound / jo / represented by < йо >, the letter < ь > /jə/ and the combination of a letter and a phoneme < ъо >.

The order of introduction of the English graphemes in some of the grade 2 English textbooks used in Bulgaria [1, 8, 9] is quite different from the order accepted in Bulgarian language lessons. For example: in the coursebook *Freeway for grade 2* [15] the order of presentation of the English letters is: < c >, < a >, < t > in Unit 2; < b >, < g >, < o > in Unit 3; < s >, < e >, < p > in Unit 4 etc. The guiding methodological principle in this case is the similarity of L2 to L1 graphemes as English language teachers are advised to build the new language knowledge on the comparison of a L2 and L1 letter (e.g. the Bulgarian < B > / v / and the English < B > / b /; the Bulgarian cursive letter < g > / d / and the English < g > / g / etc.) and on L1 and L2 grapheme-phoneme correspondences.

An important feature of the English language lesson in the primary Bulgarian classroom is the reliance on the L1 literacy skills of learners for the building of the foreign language ones. This is also explicitly stated in the Curricula for English Language for grades 2, 3 and 4 [11, 12, 13] where it is written that the first language communicative skills and strategies of children serve as a basis upon which new knowledge and understandings about how the foreign language works are built. That is not surprising as research data on the development of the orthographic competence of young learners of English as a second or foreign language [2, 4, 5, 6 etc.] shows that L1 literacy skills "transfer to the second language and are a factor in L2 acquisition" [3:99]. What research literature also suggests is that L1 spelling strategies could facilitate the mastery of the target language orthography, but the transferability of strategies across languages depends considerably on how close the two languages are.

When we compare the characteristics of the contemporary Bulgarian and English writing systems, it comes obvious that both languages have alphabetic writing systems, which use graphic symbols to represent individual phonetic segments, and which include a number of morphological spellings. However, the English writing system is much more complicated than the Bulgarian one for the following reasons:

- (1) English has 44 phonemes and Bulgarian has 45 phonemes but spellers of English need to learn more combinations of letters to cover all phonemes. For example the "pure" English vowels and diphthongs can be represented by more than 76 phoneme-grapheme correspondences, while the Bulgarian vowels – by only 6 basic spelling correspondences (Table 1).

Table 1: Phoneme-grapheme correspondences of English and Bulgarian vowels

Phoneme	Basic spelling (transparent phoneme-grapheme correspondences)	Contextual spelling (depending on spelling rules)	Word specific spelling (spellings of foreign origin or historical spellings)
ENGLISH "PURE" VOWELS AND DIPHTHONGS			
/ æ /	< a > antlers; mad; brand		
/ e /	< e > egg; bell, letter		< ea > bread; < ie > friend
/ ɪ /	< i > Indian; sit; kick		< ui > build; guild; < y > gym; happy; < a > orange
/ ɒ /	< o > old; pot ; golf;	< a > wash	< ou > cough
/ ʌ /	< u > ugly; cut; supper		< ou > young; < oo > blood; < o > monk
/ ʊ /			< u > push, must < oo > book; < o > wolf
/ ə /	< e > the;		< er > letter; better; tatter
/ i: /			< e > he; < ee > beep; < ea > team; < ey > key; < ie > field, etc.
/ ɜ: /			< er > her; < ir > twirl; < ur > burn; < or > lord; < ear > earn

Table 1: continued

/ a: /	< ar > car, barber; lark	< a > fast; last; draft	< ear > heart; < er > clerk; < al > palm; < au > draught
/ ɔ: /			< or > pork; < ore > lore; < aw > paw; < oa > board; < ough > ought etc.
/ u: /			< oo > fool; < u > rules; < ue > blue; < ou > group, etc.
/ eɪ /	< a > lazy; state; crane	< a-e > same; < ay > day; May gray;	< ai > plain; < ea > break; < ey > they; < eigh > eight; < aigh > straight; etc.
/ aɪ /	< i > tidy; time; smile; file	< y > fly; cry; < ie > tie, die	< igh > night; knight; < eigh > height; < eye > eye, etc.
/ oɪ /	< oi > coin; loin; noisy	< oy > boy; toy	
/ ɪə /			< ear > ear; < eer > beer; < ere > here;
/ eə /	< u > ugly; cut; supper		< ear > bear; < air > flair; < are > fare; < ere > where; < eir > heir; their
/ ʊə /			< ure > cure; lure; < oor > poor; < our > tour
/ aʊ /	< ou > house; blouse	< ow > cow; brown	< ough > plough;
/ əʊ /	< o > cosy	< ow > show; blow; yellow	< ough > though; < oa > goat; < ou > soul; < ol > folk
BULGARIAN VOWELS			
/ e /	< e > елха́; есе́н; ко́нче	< e > ре́жеш; къ́пеш; пре́насям; преве́ждам	< e > бре́зэ́нт; вентил; кесия; инже́нер;
/ o /	< o > о́гън; кро́тък; мо́ре; че́ло	< o > оба́грям; е́кот; о́скубвам; о́белвам; пу́кот; мъ́дрост; бе́ркотия́;	< o > хоно́рувам; ре́зervoа́р, ко́нстру́кция; вересе́ия; деребе́й
/ a /	< a > а́нгел; за́хар; мла́д; гла́ва	< a > бля́скав; гъ́вкав; наза́дничав	< a > па́стърма́; ча́дър; калде́ръм; ба́кър; валориза́ция; бакалавъ́р
/ и /	< и > и́зба; ри́ба; скри́н; су́хи	< и > прикова́вам, приближа́вам, при́тъпэн	< и > инве́стия́; интеле́гентен; прина́сям (полза)
/ y /	< y > ду́ма; глу́х; ухó	< y > учуд́вам; уважа́вам; уву́вам; обра́зувам; лику́вам	< y > актуáлен; акуму́латор; евакуа́ция; конку́ренция; манипу́лация;
/ ъ /	< ъ > гъ́ба; ми́съл; зъ́л	< ъ > да́нък; камъ́к; отра́съл; ъ́гъл	< ъ > тури́зъм; цикъ́л; анса́мбъл

- (2) English phonemes correspond to different spellings more often than in Bulgarian. Moreover, they belong mostly to the word specific category.

Evidence that proves the use of phonological strategies to L2 spelling comes from error analysis. The examples of spelling errors in the next section of the paper provide an overview of the types of errors resulting from the application of those types of strategies.

METHODOLOGY

The study of the spelling errors of Bulgarian primary school pupils was conducted with 122 Bulgarian pupils at the age 8 – 10 (grades 2 to 4) from three schools in the town of Ruse in the months March – April 2009.

The spelling errors of the pupils were excerpted from written texts in their English language notebooks and workbooks. The corpus of errors was classified in two groups with regard to the type of spelling strategy that the Bulgarian learners have used –

phonological strategy and *orthographic strategy*. In the current paper we will discuss only those spelling errors that are based on the use of phonological strategies.

ANALYSIS OF LEARNERS' L2 ERRORS

The excerpted errors which are based on the use of phonological strategies can be divided into the following types of categories: *L2 errors based on the transfer of L1 phonological knowledge*; *L2 errors based on inadequate L2 spelling knowledge*; *Other errors*.

(1) L2 errors based on the transfer of L1 phonological knowledge:

When learners of a foreign language base their phonological strategy on L1 knowledge, they tend to adapt the target language sound to the first language pronunciation. The English language phonemes that have a near equivalent pronunciation to the Bulgarian phonemes are also subject to adaptation. In both cases the Bulgarian children have used Latin letters to represent the adapted target language sounds. The main examples of adaptations of English phonemes to Bulgarian pronunciation are summarized in Table 2.

Table 2: Spelling errors resulting from phonological adaptations

English phoneme	Adapted Bulgarian phoneme	Resulting spelling
/æ / cat	/ е / кестен /'kɛstɛn /	* heven't (haven't); rebbit ("rabbit"); мep ("map"); ded ("dad"); Bulgerian ("Bulgarian"); meny ("many"); enimal ("animal"); densing ("dancing"); thet ("that");
/ʌ / luck	/ а / лак /lak /	* sammer ("summer"); dack ("duck"); mather ("mother"); brather ("brother"); maney ("money")
/i:/ sea	/ и / син /sɪn/	* ice criam ("ice cream"); jinse ("jeans"); clinend ("cleaned"); Piter ("Peter")
/u:/ book	/ у / сума /'sʊma /	* bedrum ("bedroom")
/ɔ:/ call	/ о / кол /kɔl/	* footbol ("football"); folling ("falling"); wolked ("walked"); holl ("hall"); smoll ("small")
/eɪ / slain	/ ей / скамейка /'skameɪka/	* agein ("again")
/əʊ / go	/ оу / Стоун /'stəʊn /	* howmework ("homework")

A special problem for the Bulgarian primary school pupils are the voiced consonants in word-final position, which in Bulgarian language are reduced to voiceless. A common pronunciation that Bulgarian learners of English make is the devoicing of word-final consonants which results in the following spelling errors: * hart (hard), * lif / life ("leave"), sing ("sink"), * bet ("bad"), * husbent ("husband"), *climp up ("climb up"), *thirt ("third").

(2) L2 errors based on inadequate L2 spelling knowledge:

The insufficient knowledge of the 8-10-year-old Bulgarian pupils would result into spelling errors of word-specific nature. The application of phonological strategies in this case will often lead to L2 variants such as: teatcher; bentch (cf. with "kitchen"), pickture; docktor; (cf. with "pick"), computeure (cf. with "picture"), drinck (cf. with "black"), nourth (cf. with "fourth"), * strate ("straight") (cf. with "late"), wellcome (cf. with "well") etc.

Spelling errors which are related to the low level of development of phoneme-grapheme correspondences could also belong to this category. In this case learners apply a phonological strategy but they use one L2 grapheme for the presentation of a specific sound (Table 3).

Table 3: Errors due to insufficient L2 phoneme-grapheme knowledge

English grapheme	English sound	Resulting spellings
< k >	/ k /	* kat ("cat"), kout / koolt ("coat"), blok ("block"), dokuments ("documents"), skarf ("scarf"), insekt ("insect")
< s >	/ s /	* pensil ("pencil"), sircle ("circle"), bisycle / bysical ("bicycle"), plase ("place")

The analysis of the excerpted errors also shows that some of the errors could be interpreted as unsuccessful attempts of producing correct spellings through the application of a phonological strategy. Those attempts include the invention of new letter combinations to represent sounds which do not have equivalent in Bulgarian (Table 4).

Table 4: Invented spellings

English phoneme	Phonological adaptation	Resulting spelling
/ θ / bathroom everything north mouth three	/ t / / t / / t, / f / / t / / t, / f /	* bathroom * everyting * nort / noort / norf * mout / maut / mot * tree, free / fri / frii / fria
/ ð / brother this feathers clothes	/ t / / d /, / v /, / f / / d / / d /	* broter * dis, vis / ves, fes * feders * clodes / klouds
/ əʊ / coat	/ ou /	* kout / cout

However, not all errors that are a result of inadequate knowledge of the L2 spelling conventions can be interpreted as caused by the application of a phonological strategy. A more suitable way of classifying such errors would be that of analyzing them in terms of substitution, omission, insertion or doubling of a letter. Examples of those types of error categories include:

- a) *substitution of a letter* – liserd (“lizard”), elepfant (“elephant”), pensil (“pencil”), catedraw (“cathedral”), insekt (“insect”), yoang (“young”), hur (“her”), carly (“curly”) etc.;
- b) *omission of a letter* – betwen (“between”), hors (“horse”), turky (“turkey”), yelow (“yellow”), leter (“letter”), parot (“parrot”), “sanwich (“sandwich”), tomorow (“tomorrow”), siting room (“sitting room”), scisors (“scissors”), lisen (“listen”) etc.;
- c) *insertion of a letter* – goose (“goose”), famouse (“famous”), Bulgauria (“Bulgaria”), traine (“train”), courly (“curly”), beucuse (“because”), danceing (“dancing”) etc.;
- d) *doubling of a letter* – pillot (“pilot”), sallad (“salad”), pollice (“police”), “shoott” (“short”), mirrorr (“mirror”), usually (“usually”) etc.

(3) Other errors:

Not all of the excerpted errors can fit into the discussed above categories. There are at least two sources of errors made by Bulgarian primary school learners of English.

One of the problems in learning the spelling of a foreign language is the mastering of the letter forms. As Bulgarian and English language use different scripts (respectively Cyrillic and Roman) very often children use a Bulgarian grapheme to represent an English sound. The most common errors in this case are:

- the use of the Bulgarian letter < g > to represent the English consonant phoneme / d / – e.g. * behing (“behind”), chilgren (“children”), begroom (“bedroom”), gentist (“dentist”), gear (“dear”), wing (“wind”), togay (“today”) etc.;
- the use of the Bulgarian letter < u > for the English short vowel / ɪ / – e.g. buke (“bike”), thus (“this”), kutchen (“kitchen”), hus (“his”), happu (“happy”), pussucat (“pussycat”), scurt (“skirt”).

The fact that in English there are some graphemes which have a “mirror” image (e.g. < b > and < d >, < p > and < q >) causes serious problems to the 8-10-year old Bulgarian children. Some of the most common errors include the following L2 letter substitutions:

- < d > with < b > – bolphins (“dolphins”), bining room (“dining room”), bog (“dog), bining room / binigroom (“dining room”), sit bown (“sit down”);
- < b > with < d > – zedra (“zebra”), wardrode (“wardrobe”), tadel (“table”), dutterfly (“butterfly”), doat (“boat”).

CONCLUSION

The study of the spelling errors of 8-10-year old Bulgarian learners who study English in the primary reveals that children rely mostly on phonological strategies in the initial stages of their L2 literacy acquisition and that L1 interference has a strong influence on the acquisition of the English spelling conventions. This puts forward the question of the necessity of consistent and systematic training of Bulgarian primary school pupils in both phonological and orthographic strategies, which would provide them with the knowledge and skills for decoding and spelling familiar and new L2 words.

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