THE RELATION BETWEEN ORTHOGRAPHY AND PRONUNCIATION VIEWED BY THE LEARNERS OF ENGLISH

H. Vancova
Trnava University (SLOVAKIA)

Abstract
The acoustic form of the English vocabulary is inseparably tied to complex orthographic patterns, which result in a relatively low degree of visual/acoustic correspondence of the most frequently used words. A special group of words, homographs, provide two possible pronunciations and meanings for the same sequence of letters and the foreign learners of English must recognize and pronounce them accurately. Naturally, the recognition of these words is more likely to be successful in highly proficient learners of English. The aim of the paper is to present the orthographic preferences of selected vocabulary items (homographs and control words) collected from the learners of English participating in a pre-test/post-test research design listening to semantically ambiguous sentences. The participants attended sessions aimed at the familiarization orthography and pronunciation relation to achieve a progress in the use of homographs. The paper was supported by the grant scheme no. 14/TU/2018 Homonymy in English.

Keywords: homonymy, homographs, pronunciation, orthography.

1 INTRODUCTION
Homophony as a linguistic phenomenon based on the acoustic identity of two orthographically different forms with their separate meanings can be induced by different factors. The four principal causes may be (1) the separation of meanings of one word, (2) the accidental similarity of different words in the same language, (3) similarity of loan words, and finally, (4) homonymy may be a result of word-formation processes (Kvetko, 2009) [1]. Irrespective of the origin and background of homophonous words, their use in communication demands a certain level of command and proficiency of English by the English as a Foreign Language (EFL) learners. The native speakers generally display a certain innate capability to deal with this linguistic phenomenon. Conwell (2017) [2] investigated the comprehension of homophones in the native English speaking children and adults. Firstly, children must overcome the stage of the language development when they expect each word to refer to one concept and vice versa. After that, both groups of the native speakers of English distinguish between two homophones in speaking and listening according to a perceptible prolongation of the pitch change for the less frequently used homophone. She also assumes that children learn to use the slightly longer acoustic form of the homophone word pronounced with or without context in authentic encounters with the word. Children therefore benefit from the acoustic cues, as well as the context when learning a homophone. In addition, listening to an utterance containing a homophone (e.g. the flour/flower distinction) is based on the absence or presence of the contextual reference (e.g. blossom). In a cross-linguistic study Dautriche et al. (2018) [3] revealed, that children are able to learn homophones of different grammatical categories earlier than homophones of the same word class but differing in gender. This finding may be a starting point to the EFL learners when choosing the order of homophone familiarization.

The relation between the grapheme-phoneme correspondence is very complex in English. Treiman, Seidenberg & Kessler (2014) [4] investigated how the native speakers of English view the relation between the orthography and pronunciation from the perspective of morphology and phonology. A crucial role of morphology would suggest different orthographical form for homophones, a precedence of phonology would suggest the same orthography for the same acoustic form. Treiman et al. (2014, p. 552) [4] identifies the conflicting “pressures on spelling” displayed differently in different types of tasks when a word contains the same phoneme written differently across different words. This resulted in the use of the same cluster letters for new morphemes. Perry, Ziegler & Coltheart (2002) [5] identified four factors the participants of their study were “sensitive to morphological, positional, and vowel-type constraints when spelling” (Perry et al. 2002, p. 913) [5]. More specifically, in their experiment they examined the grapheme-phoneme relation and their position, the morphological structure of a word, the vowel quality and the position of the phoneme /j/ in the initial onset. The acoustic similarity does not concern only individual words, but also word clusters and grammatical
The investigation of the preference of the different orthographical patterns of the English sounds was the main focus of this study. The EFL learners often face the challenge to spell words correctly. The English spelling is viewed as complex and highly irregular due to the high degree of the orthographic irregularity of the most frequently used words (Kelly, 2000) [5]. However, teaching the basic principles of the English orthography may provide a guide to the writers/readers of English. The EFL learners are generally able to master the English orthography; however, the issue becomes more complicated in semantically ambiguous sentences or sentences.

The participants of the study were the Slovak university students of English (N = 12) with the average age of 21.68 years; 4 male and 8 female. All of them were the Slovak native speakers, therefore had only a limited experience with homophones from their mother tongue. Different parts of the study were performed by 19 students in total; however, only the results of the participants taking part at all stages could be taken into consideration for the final assessment. The participants were previously briefly presented homographs in a pronunciation course as one of the features of English; no participant reported any previous systematic presentation and training in this group of vocabulary. All study participants cooperated voluntarily and were informed about the aim of data collecting sessions.

For the purpose of the study 20 distracting units and fifty acoustically identical words were selected from the list presented by Terrel & Meadows (1985) [8]. The list does not include only acoustically identical individual words, but also grammatical contractions with identical sound of a single word. Based on the Kelly’s (2000) [7] and Perry et al.’s (2002) [5] description of the basic principles of the English orthography, the words were selected according to different criteria. Each word was a homophone mate to a word that (1) is a short word ending in the letter “e” with a long vowel or a diphthong in the previous syllable, e. g. plane; (2) contains a silent letter, e. g. knows; (3) is a grammatical contraction, e. g. aren’t; (4) is a past tense of a verb, e. g. allowed, and (5) has an alternate vowel spelling, e. g. weak. While the studies with the native speakers of English benefit from the presentation of words and non-words, for the purpose of the study only real words were selected.

The tasks were performed and the data were collected in several stages. First, the students listened to the words pronounced in the Cambridge Pronouncing Dictionary (2011) [9] and their task was to write down the first word they could hear. The session took place in a laboratory, the students were wearing headphones and they listened to each word twice. The task was self-paced. The data collected from this stage of the research will be referred to as pre-test. During the second and third sessions, the participants were performing familiarization communicative tasks based on information-gap exercises. The participants listened to the authentic ambiguous sentences containing homophones. The target words were also repeated by their communicative partners in the post-listening exercises. During the final, fourth session, the students again listened to the same set of fifty words as in the first session, accompanied by different distractors. This final data collection will be referred to as post-test. In the analysis, the spelling frequency and predictability by Berndt, Reggia & Mitchum (1987) [10] is listed for selected homophones in the following section.

3 RESULTS
After the collection of the data from the study participants, the results were analyzed in several stages. Firstly, the pre-test written records were compared to the post-test records. The main aim was to learn, which entries were recorded in different order and which were replaced by a new homophone.
mate not recorded in the pre-test. The data were divided into the categories described in the previous sections and the results are presented below.

### 3.1 The Results of Individual Word Groups

The comparison of the data collected in the pre-test and the post-test were divided into five main categories.

The first category consisted of words ending in the letter “e”. A list of 15 homophone mates (i.e. grate/great, hire/higher, plane/plain, pale/pail, hare/hair, lone/loan, made/maid, site/sight, here/hear, waste/waist, sole/soul, suite/sweet, gate/gait, male/mail, sale/sail) was selected. The overall performance of participants displayed a consistently similar results, deviating only minimally in each participant. In entries, the word ending in the letter “e” was always secondary to the homonym mate, the most significantly for the word sweet/suite or great/grate, where each first word was recognized by all participants. However, while the word grate was in the second part recognized by three participants, the word suite was not preferred in the post-test. The participants were most likely to prefer the word made in the post-test.

The second category represented the words with silent letters. The list presented to the study participants contained the words knight/night, knows/nose, which/witch, whether/weather, two/too, hour/our, scent/sent, scene/seen and heir/air. In this context, the results were not as uniform as in the previous group of words. While the words with the typical silent letters as kn- in the initial position was clearly identified and the least likely to change in the preferences of students, the words containing the silent letter “h” in the word initial or final position was preferred in the post-test. The word category in the pairs knows/nose and scene/seen was also significant for the identification of the noun form almost exclusively, but the average a consistency was displayed in preferences of the study participants.

The third category consisted of grammatical contractions. The list presented to the study participants contained six contractions, i.e. we’ve/weave, you’re/your, aren’t/aunt, we’ll/wheel, we’d/weed and you’ll/yule. The collected data revealed that the contracted form was identified by none of the study participants, as they did not consider them as possibly acoustically identical to individual words. However, after the practice of the contractions in communication tasks, the number of identified homophonic contractions has grown for the words you’re and aren’t. The participants were presented the BBC English pronunciation of the word aren’t, that is very different from the American pronunciation. Therefore, the average recognition of both words was relatively low. Consistently, the word weed was the most frequently identified word, and the word weave the least frequently identified.

The fourth category of the presented homophones contained the past tense of verbs. The list of words contains 13 entries including allowed/aloud, blew/blue, soared/sword, made/maid, seen/scene, caught/court, ducked/duct, brewed/brood, bred/bread, been/bean, banned/band, passed/past, threw/through. The study participants displayed a wide range of answers due to the fact that several verbs were regular, therefore contained either a sound /t/ or /d/ at the end, or irregular, being identical acoustically to structurally different words. The data collected from the study participants revealed, that they lack the sensitivity to the voicing of the final consonants, resulting in homonymous mates like site/-side, etc. However, since this finding was not the focus of this study, it will be considered for a closer analysis in the future.

The final, fifth category, consisted of words with the different vowel graphemes. The list of words contains 8 words including root/route, heal/heel, meat/meet, pour/poor/paw, mourning/morning, peel/peel, son/sun, buy/by. The words contain similar vowel clusters differing in their frequency of use (for reference see Berndt et al. 1987). The paradoxical performance of the lowest score of consistency was in the vowel cluster ea/ee pronounced as /i:/, which was the group of words the most likely to be changed in favor of the other homonym mate in the word week/weak, however, the same combination of grapheme-to-phoneme combination displayed the highest degree of consistency in heal/heel homonym pair.

The overall results differ for each category, the most challenging for them to be the grammatical contraction group of homophone mates.

### 3.2 A Comparison of Results

After the overview of the individual word categories, a summary of the results will be presented in Table 1 and Table 2.
Table 1 presents the spelling preferences of the participants after both stages of data collection. In brackets, the spelling patterns dealing with the correspondence of graphemes and phonemes are presented Berndt et al. (1987) [10.]

Table 1. Spelling Preferences in Words Perceived by the Participants with Frequency of Occurrence of Grapheme-to-Phoneme Correspondence, Berndt et al. (1987, in brackets)

<table>
<thead>
<tr>
<th>Word Group 1</th>
<th>the Highest Consistency</th>
<th>The Lowest Consistency</th>
</tr>
</thead>
<tbody>
<tr>
<td>/səʊl/ (o-e=.785, ou=.001)</td>
<td>/metd/ (ea=.027, a-e=.651)</td>
<td></td>
</tr>
<tr>
<td>/ɡreɪt/ (ea=.027, a-e=.651)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Word Group 2</td>
<td>/natt/ (kn=1.000, n=.967)</td>
<td>/aʊə/ (ou=.324)</td>
</tr>
<tr>
<td>/n̪euz/</td>
<td>/ˈweð.ə/ (ea=.027, e=.419)</td>
<td></td>
</tr>
<tr>
<td>Word Group 3</td>
<td>/wiːd/ (ee=.979, e=.230)</td>
<td>/ˈaːnt/ (a-e=.025, au=.025)</td>
</tr>
<tr>
<td></td>
<td>/ˈwiːl/ (ee=.979, e=.230)</td>
<td></td>
</tr>
<tr>
<td>Word Group 4</td>
<td>/kɔːt/ (au=1.000, our=.041)</td>
<td>/ˈsoʊd/ (s=.865, sw=1.000)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Word Group 5</td>
<td>/hiːl/ (ea=.576, ee=.979)</td>
<td>/ˈwiːk/ (ea=.576, ee=.979)</td>
</tr>
</tbody>
</table>

Besides the primary goal of the study, to investigate the orthographical preferences of the study participants, it is worth mentioning the personal development of the study participants in using and understanding homophones. In the comparison of the performances, five main tendencies were noticed – (1) no change in the performance, (2) the change of order when identifying both homophone mates, (3) adding a new homophone to the previously recognized one, (4) adding a new word and giving it a precedence, and finally (5) submitting only one new word. The results of the participants from this perspective are presented in Table 2 below. The average result and the highest score are presented; the lowest score could go as low as 0 points for some participants.

Table 2. The Changes in the Students’ Performances (in Per Cent)

<table>
<thead>
<tr>
<th></th>
<th>No Change</th>
<th>The Change of Order</th>
<th>An Additional Word</th>
<th>The Preference of a New Word</th>
<th>A New Word Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>the Average Score</td>
<td>40,33</td>
<td>7,71</td>
<td>23,00</td>
<td>7,333</td>
<td>10,00</td>
</tr>
<tr>
<td>the Highest score</td>
<td>68,00</td>
<td>16,00</td>
<td>36,00</td>
<td>34,00</td>
<td>22,00</td>
</tr>
</tbody>
</table>

4 CONCLUSIONS
Homophones belong to the category of words that native speakers learn to use naturally in communicative context; however, the EFL learners must be made aware of them and practice them through the variety of awareness raising activities. In addition to two meanings of the words, these words usually are recorded in different orthographical form, which represents one sound within the acoustically identical word. Without the doubt, more frequently used homophone mates are more familiar to the EFL learners and a certain level of competence is therefore required when they are asked to write down an acoustically familiar word in a different orthographical pattern. The aim of the contribution was to investigate the preferences of the Slovak learners of English when writing down a homonym and their likeness to change it after the systematic introduction of this specific category of words through semantically ambiguous sentences. The results indicate that the study participants found the most challenging the identification of the grammatical contractions, as they could not perceive the homophone mates as identical in their acoustic form. In addition to that the results indicate that the Slovak learners of English are not sensitive to the category of the voicing of the consonants in the word-final position, as the study participants viewed words like side-site or mate-made as homophone mates, when drawing from the orthographical similarities between the words. However, the results also indicate that even if the preferences in the orthography do not change significantly, the exercise and the communicative us of the homophones can broaden the sensitivity to the grapheme-phoneme relation.
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