Impact of Phonemic Transcription on Learners’ English Spelling: A Segmental Study

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Abstract:

The Acquiring sufficient proficiency in English pronunciation is a strenuous task for EFL (English as a Foreign Language) learners. Among other reasons, one primary reason is inconsistent relation between the sounds and letters of the English language which makes English pronunciation a hard task for foreign learners. To reduce this discrepancy of sounds and spellings and for refined native like pronunciation, phonemic transcription is used quite widely by EFL/ESL teachers across the world. The phonetic/phonemic transcription is based on the internationally recognized symbols commonly referred to as IPA (International Phonetic Alphabet) offered by IPA (International Phonetic Association). Despite the immense usefulness of phonemic transcription, it has the potential to negatively affect learners’ normal English spellings. The current study aimed to investigate the effect of continuous phonemic transcription on English spellings of EFL learners through a Pre experimental research design. The study participants were the students of Diploma level in the Functional Courses Department, National University of Modern Languages (henceforth NUML). A range of phonemic passages was used as a research tool to explore the impact of sounds on spellings by adapting Cook’s classification of spelling errors. Findings of the study reveal various categories of sound substitution errors under the impact of consonants, vowels, and diphthongs. With continuous practice of converting phonemic transcription into normal English spelling/orthography, certain consonantal sounds like /ð/, /ʃ/, /s/, /kl/, /z/, /w/ and vowel sounds like /i:/, /i/, /æ/, /ʊ/, /ɒ/, /ʌ/, /ə/ show the Mother Tongue(MT) impact of sounds on spellings. While in the case of diphthongs, only two sounds /aɪ/, and /əɪ/ exhibit the impact of sounds on spellings.
Introduction:

Pronunciation is one of the exasperating problems for foreign language learners as it has the potential to impair communication abilities (Grant and Brinton 2014, Darcy, 2018, Ghorbani, 2019). Moreover, non-native accent carries stigmas that may be, at times, detrimental to social and workplace outcomes (Gluszek & Dovidio, 2010). Therefore, English learners/teachers need to put great emphasis on the teaching of pronunciation so that it does not become “Cinderella” of language teaching (Kelly, 1969; Dalton, 1997). According to a survey conducted by Waniek-Klimczak et al, (2015), 95% of English language learners desire to articulate English like native speakers for achieving intelligibility and a native-like accent. Nevertheless, unfortunately, pronunciation issues are not given any significant consideration in language teaching which is still causing this aspect of language teaching to suffer from the “Cinderella Syndrome- kept behind doors and out of sight” (Celce-Murcia, 1996; Arteaga, 2000; Piske, Mackay & Flege, 2001). At the same time, this pedagogic preference or perhaps bias is not the outcome of any linguistic antagonism; this is due to a number of reasons. First of all, it is ignored during the language learning process (Yürük, 2020, p. 138) due to the curriculum limitations and lack of training on the part of teachers (Pennington & Rogerson-Revell, 2019). Secondly, at the beginner’s level, pronunciation courses are not receiving ample attention as compared to the teaching of grammar and vocabulary (Reid, 2016). Thirdly, English is notorious for being non-phonetic in nature. In order to correct this anomaly, the International Phonetic Association (IPA) created the International Phonetic Alphabet (IPA) system in 1888.

For an error-free pronunciation of a language, phonemic transcription is an efficacious means for both language instructors and learners (Mompean, 2015). With continuous practice of phonemic transcription, language learners can not only pronounce a known word correctly, but can also pronounce newly encountered words accurately (Robinson et al., 2011). Werfel (2017) specifically emphasized the positive impact of phonemic transcription on adults’ pronunciation. In a similar spirit, Blachman (2000) talked about the advantages of phonemic awareness for young children and how they may help them create a letter-sound association at the basic level. Likewise, studies carried out by Kamhi and Hinton (2000), Pederson (2013), and (Blachman, 2000) and so on suggest the positive side of phonemic transcription. In contrast to the past researches, which believed that effectiveness in English spelling relies on phonemic awareness followed by phonemic transcription (Abu-Rabia & Sammour, 2013), the present study intends to report the negative effect of phonemic transcription on spelling. Like other target language learners, Pakistani language learners with various regional backgrounds have intricate problems with pronunciation (Hashmi, 2011; Abbas, 2011; Anwer, 2007; Akram...
and Qureshi, 2012; Khan, 2009). These problems are the result of learners’ linguistic background on the one hand, and teaching practices on the other.

This investigation was undertaken with the aim to find out the negative effect of continuous phonemic transcription on learners’ English spelling. The study was guided by the following research question.

**Research Question:**
How does phonemic transcription affect the English spellings of Pakistan language learners?

**Significance of the Study:**
The current study is significant academically because it can more effectively address the challenging area of language instruction where students' ability to spell is negatively impacted by the sole focus on phonemic transcription in the Phonetics and Phonology course. The scope of the course in language learning is to refine the pronunciation of language learners and to reduce the inconsistency between spelling and sounds of the English language. But it is different in the sense that continuous phonemic transcription itself can cause spelling errors as spellings are already developed through the twelve years of formal education whereas sound knowledge is provided through the course of Phonetics and Phonology at the university level.

**Literature Review:**
Pakistan is one of those countries where English is spreading fast (Raza, 2008). Primarily, acquiring English as a second language is inclined towards oral skills owing to its practical value in social life generally and the professional sphere specifically. The teaching practices for oral competence are solely confined to classroom settings integrating it with pronunciation and intonation that could develop communicative effectiveness and listeners’ intelligibility (Zhang & Yin, 2009). So the practical application and advantages of learning Phonetics come in the form of accurate pronunciation of foreign language learners as discussed by Pourhosein Gilakjani (2012) that phonetics training improves the word recognition and pronunciation of language learners.

According to Yates (2016), pronunciation is an aspect of verbal communication that is essential for the accuracy of speech sounds. The members of a speech community can communicate their views more successfully if they pronounce words correctly. Brown (2014) states that developing native-like accent is partially unachievable for adult foreign language learners but explicit pronunciation information from the dictionary and phonetic transcription are the tools used for the refined pronunciation.

Traditionally, programs for teaching pronunciation often focus on a language's segmental and suprasegmental elements. The study of a language's consonants, monophthongs, diphthongs, and triphthongs is referred to as segmental characteristics (Skandera & Burleigh, 2005; Roach, 2009) whereas the patterns of a language's stress and intonation are addressed by suprasegmental characteristics (Crystal, 1992). In traditional classroom teaching practices, language instructors pay more attention to the letters of the English language and either completely or partially ignore the sound system of the language.
A study by Dufva and Vauras (2002) concludes that teaching mechanism based on phonology and phonemic symbols is helpful to improve the spellings and pronunciation of language learners which ultimately leads to better reading skills. This specific phonologically based education can aid students with precise word recognition and decoding (Snowling & Hulme, 2011). Similar to this, Ziegler and Goswami (2005) contend that phonological features in some way influence orthographic representations. For the better reading skills and word recognition, it is essential to develop relation between orthographic and phonological forms so that students’ errors could be effectively remedied (Werfel, 2017).

Tominaga (2011) states that pronunciation is a rarely focused area in Japanese high schools in spite of all its necessary awareness and necessity. It is true that there are a number of non-native variations of English in use because certain sounds are spoken incorrectly. These non-native variations frequently alter the native English sound structure to suit their needs, which may sometimes be influenced by the first language of the speaker. Irawan (2020) performed action research on the students of the English department at Pamulang University to understand the influence of phonemic transcription on the pronunciation of language students. The findings of the study suggest the positive effect of phonemic transcription on the pronunciation of language novices including segmental and suprasegmental features of the language. Ghorbani (2011) recommends that correspondence between sounds and symbols can be developed by using phonemic transcription.

Keeping in view, the influence of sounds on spellings as a major reason for pronunciation difficulties, a study was conducted by Khansir (2015) that suggests the addition of phonemic transcription as a remedy to improve the spellings of the target language. This phenomenon was further endorsed by Lintunen (2004), where an experimental study verified a connection between phonemic transcription skills and pronunciation. It was noted that students having mastery in phonemic transcription also have better pronunciation and spelling. Gilakjani (2012) also discusses the positive influence of phonetic instructions on improving the pronunciation of language learners. Ghorbani (2019) also asserts that phonemic transcription is a helpful tool used to improve the stress patterns and pronunciation of English (p. 406).

Taking into account phonological issues in Pakistan, one recent study was carried out by Farooq (2021) where the pronunciation problems were evaluated under three phonological rules i.e. segment rotation, ellipsis, and epenthesis. In another study, Jabeen, et al., (2012) state that epenthesis is one of the regularly found and prominent feature of Pakistani English. Pakistani learners without any gender specification insert a short vowel sound before or within specific consonants regularly. Nadeem (2013) found that wrong pronunciation of Pakistani language learners is due to suprasegmental features because they over emphasize different words. Such pronunciation issues and spelling problems related to the impact of sounds can be found all around us due to the mother tongue influence on second language acquisition. One such study by Riaz (2015) explored pronunciation and identification issues of English sound /ŋ/ due to the first language influence. Similarly, to understand the phonetic and phonological difficulties of Arab language learners, AL-Dilaimy (2012) conducted a study that highlights the problems related to identification, articulation, and the perception of speech sounds during the learning process. The findings of the study enlist various reasons such as the impact of English orthography taught at the earlier stages of language learning, inconsistent relationship.
between the word forms and phonemes of target language, and the first language interference on the target language. Likewise, another experimental study by Ali (2013) was conducted on Sudanese university learners whose first language was Arabic. The major aim of the study was to analyze articulation errors due to Arabic accent. The English vowels were taken as a sample and the acoustic analysis was performed on the data collected by Sudanese speakers and the performance was compared with the speakers of (RP) English. The study’s findings are in favor of teaching sound awareness to novices. Moreover, Mehwish (2017) conducted an acoustic analysis to identify triphthongs in Pakistani English. Outcomes of the data reveal the impact of the Urdu language on English sound production. Due to this, Pakistani speakers create two triphthongs that are not included in the RP phonetic inventory: I /æ/ (at the word-final position) and (ii) /a/ (at the word-medial position).

To call attention to pronunciation and spelling difficulties, Ocal & Ehri (2016) performed an experiment of providing training for developing phoneme and grapheme association as well as phonological awareness of students. The findings of the study support the proposition that the relationship between phonemes and graphemes is helpful to improve the spelling pronunciation problems of language learners. Khansir and Tajeri (2015) presented a list of English words that lack a correlation between spellings and sounds so that language instructors could use it as a guide.

For the identification of pronunciation issues, Al-Saidat (2010) studied the phonotactics of Arab language learners. For the data collection, the students received a list of words for which the recorded utterances were phonemically transcribed and then compared with the accurate pronunciation (RP). The results indicate that Arab language learners insert extra vowel sounds at the onset as well as the coda of certain English syllabic sounds under the mother tongue influence.

For phonological awareness, a recent correlational study was conducted by Lodzikowski (2021) whose aim was to analyze the effects of allophonic transcription as a tool to improve the phonological awareness of the ESL learners of Polish University. Inspite of using a traditional worksheet for phonemic transcription, the researcher suggested the positive result or outcome of the allophonic transcription tool for better phonological awareness. Regarding the use of technology in language classes, Gilakjani et.al (2018) report that teachers having a positive approach towards the use of software play a vital role in the pronunciation instruction program. Similarly, Rogerson- Revell (2018) emphasize the importance of technology while teaching pronunciation.

While analyzing the pronunciation problems and remedies in Pakistani context, Javed and Ahmed (2014) found that language learners mispronounce multisyllabic words, diphthongs, triphthongs and unvoiced sounds where lack of awareness about phonological features of language might be the cause. Sheikh (2012) noted in his research that Pakistani language learners mispronounce / o / as /æ/ and /o/ and /ɔː/ as /aː/. These mispronunciations due to the variation of sounds also reflect in the phonemic transcription practices because learners find it difficult to discriminate them properly. In a study on consonantal articulation, Shabbir (2013) found that “The RP speakers pronounce words differently, for example, /θ/ as voiced and unvoiced has specific sounds transcribed as /θ/ and /ð/ while Pakistani speakers
pronounce /th/ voiced and unvoiced as /θ/ and /d/.” As a result, mispronunciation and spelling identification problems are faced by Pakistani language learners.

For the elaboration of sounds and spelling contrast, Syed et al., (2017) mention that “Pakistanis produce voiceless stops without aspiration in even stressed positions” and this issue also surfaces in the spellings because English orthography does not maintain an aspiration contrast in spellings (p. 206). As a result, students commit variety of spelling errors in composition. In another study of sound-spelling-contrast, Syed et al., (2017) identify an articulation error of British English /w/ pronounced with rounded lips by native speakers. They report that Pakistani speakers do not pronounce /w/ with rounded lips. Findings of the study report that Pakistani language learners pronounce /w/ and /v/ similarly and mostly it elongates the following vowel sounds. Resultantly, Pakistani learners face difficulty in the spellings of /w/ and /v/ sounds.

In a recent study, Mehwish (2021) provided a list of 350 words with deviant pronunciation by using phonemic transcription. The findings of the study highlight deviation in terms of sound elongation, insertion and omission of schwa sound, stress pattern and focus on spellings then sounds. These findings also explain the unique phonological structures of Pakistani English that can be accommodating for teachers and apprentices for the progress in pronunciation.

This phenomenon of developing phonemic transcription skills is also found useful for students who have weak letter-to-phoneme correspondence and ambiguous spellings in English (Tergujeff 2012a) under the impact of their first language with high letter-to-phoneme correspondence (Suomi et al. 2008). The present study aims to explore the influence of sounds on spellings in a different dimension. Here, the impact of phonemic transcription was observed for the university students where the adult language learners were exposed to phonemic awareness at a later stage whereas spellings had already been developed through twelve years of formal education.

By keeping in mind the lack of phonemic awareness in Pakistani context, the current research was carried out without any pretest because in the Pakistani educational system less or no emphasis is given to the sounds at the beginners’ level. Due to the limitation of traditional classroom teaching practices, the concept of Phonetics and Phonology appears at the university level when these students become the part of any language learning program.

Delimitation:

This research was delimited to the adult language learners of Diploma course offered at NUML. The students were enrolled with the minimum qualification of intermediate so that the participants with better spelling ability could be used as the study participants. Another reason for selecting the participants with this educational background was to reduce the probability of already weak spellings. From the content point of view, only segmental features of the language were studied.

Research Methodology:

The present study is Pre-Experimental in nature (one-shot case study) in nature as it considers a single group only. It was not feasible to carry out a pre-test for the participants as the subject of Phonetics and Phonology was new to them; hence the background knowledge was not
considered and was not relevant as such. Four months of a semester was the time duration for this study which was further subdivided into two months as an instruction period and two months as a practice time. During the instruction period, the instructor provided the basic phonetic and phonological concepts with specific emphasis on English consonants, vowels, and diphthongs. Whereas for the remaining two months, participants were engaged in phonemic transcription exercises i.e. the conversion of phonemic passages into normal spellings.

Data was collected from twenty-four participants (n: 24) studying Phonetics and Phonology at the Diploma level of FC (Functional course) Department, NUML, Islamabad. Each study participant changed twenty-four phonemic passages into normal English spellings. Cook’s classification of spelling errors was used to examine the obtained data, which was then presented in tabular form.

**Data Analysis:**

As already mentioned above, Cook’s classification of spelling errors was used as a theoretical framework in order to explain various kinds of spelling errors that seem to appear under the impact of continuous phonemic transcription practice. Vivian Cook’s classification describes four categories of spelling errors that are *addition, omission, substitution*, and *transposition*. But with reference to the present research, only those categories were highlighted where the influence of sound mirrors in the word form of the study participants.

In this regard, one major category of spelling error reveals the sound impact on spelling called sound substitution errors. Here, the study subjects replaced sounds with spellings including consonant and vowel sounds. For a few sound substitutions, it can be considered as the substitution error that happened due to the similarity of letters and sounds particularly in English consonantal sounds. But in few a spelling errors, the subjects substituted those sounds unconsciously as they could not differentiate between sounds and letters or it might be assumed as overlapping between the sound knowledge and letters.

From the collected data, sound substitution errors were mainly found that particularly focused on the effect of sounds on spellings. With reference to the data, these sounds were categorized into consonantal, vocalic and diphthongal substitution errors.

**Table 1: Sound Substitution Error**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Types of Sound Substitution Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Consonantal Substitution error</td>
</tr>
<tr>
<td>2</td>
<td>Vocalic Substitution error</td>
</tr>
<tr>
<td>3</td>
<td>Diphthongal Substitution error</td>
</tr>
</tbody>
</table>

According to Cook’s classification, sound-letter substitution is a major category of spelling errors which pertains to segmental sounds. But in current research, sound substitution errors appeared on account of the sound substitution within the letters. Although English contains 24 consonantal sounds, the analysis of data revealed only seven consonant sounds where the study participants added sounds in letters as a replacement for possible sounds. The most prominent sound was /th/ written as /ð/ in the orthographic form whereas the actual spellings are <th> which appeared as the conversion of sound into letters that directly explains the impact of sounds on spellings. Similarly, /ʃ/ sound which is shown through the various combinations of
letters also shows the spelling errors where some of the participants unconsciously added /ʃ/ to the spellings of the word “solution”. Here, the participants replaced letters <tio> with /ʃ/ sound. These kinds of spelling mistakes are uncommon, although a few people added sounds rather than letters because phonemic transcription was converted into spellings.

Table 2: Consonant Substitution Errors

<table>
<thead>
<tr>
<th>Serial no</th>
<th>Consonantal Sound Substitution</th>
<th>Spelling Errors</th>
<th>Phonemic Transcription</th>
<th>Correct Spellings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Substitution due to /ð/ sound</td>
<td>/ð/</td>
<td>/ð/</td>
<td>The</td>
</tr>
<tr>
<td>2</td>
<td>Substitution due to /ʃ/ sound</td>
<td>soluʃn</td>
<td>soˈluʃn</td>
<td>Solution</td>
</tr>
<tr>
<td>3</td>
<td>Substitution due to /s/ sound</td>
<td>Diseptive, insident</td>
<td>diˈseptɪv</td>
<td>ˌɪnsɪdənt</td>
</tr>
<tr>
<td>4</td>
<td>Substitution due to /k/ sound</td>
<td>Kam, Plastik</td>
<td>kaːm ˈplæstɪk</td>
<td>Calm, Plastic</td>
</tr>
<tr>
<td>5</td>
<td>Substitution due to /z/ sound</td>
<td>Haz, rezident</td>
<td>haɪz ˌrɛzɪdənt</td>
<td>Has, resident</td>
</tr>
<tr>
<td>6</td>
<td>Substitution due to /f/ sound</td>
<td>Telifone</td>
<td>ˈtelɪfɔn</td>
<td>Telephone</td>
</tr>
<tr>
<td>7</td>
<td>Substitution due to /w/ sound</td>
<td>wen</td>
<td>ˈwen/</td>
<td>When</td>
</tr>
</tbody>
</table>

Remaining consonant sounds /s/, /w/, /z/, /k/ and /f/ had similar form as English letters have. But the spelling errors caused by these sounds also show the impact of sounds on spelling. For example, <has> and <when> are commonly used words but the participants committed these errors by using these sounds in spellings by writing them as “haz” and “wen”. Although these errors are few, the findings of the sound replacement in a text add validity to the assumption that if subjects continuously indulge in phonemic transcription, their spellings get effected due to the overlying of sounds and spellings.

Table 3: Vocalic Substitution Errors

<table>
<thead>
<tr>
<th>Serial no</th>
<th>Vowel Substitution Errors</th>
<th>Spelling Errors</th>
<th>Phonemic Transcription</th>
<th>Correct Spellings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Substitution due to /i/ sound</td>
<td>ˈsɪmpli, veri</td>
<td>ˈsɪmpli</td>
<td>ˌvərɪ</td>
</tr>
<tr>
<td>2</td>
<td>Substitution due to /æ/ sound</td>
<td>ˈæktɪv, ˈmeɪɡʒɪzn</td>
<td>ˈæktrɪv ˈmeɪɡə ˈziːn</td>
<td>Active, Magazine</td>
</tr>
<tr>
<td>3</td>
<td>Substitution due to /u/ sound</td>
<td>ɡʊd, ˈbox</td>
<td>ɡʊd</td>
<td>ˈbɔks</td>
</tr>
<tr>
<td>4</td>
<td>Substitution due to /ʊ/ sound</td>
<td>ˈfɔɡ, ˈɡɒn</td>
<td>ˈfɔɡ</td>
<td>ˈɡɒn</td>
</tr>
<tr>
<td>5</td>
<td>Substitution due to /ʌ/ sound</td>
<td>ˈæp, ˈsʌm</td>
<td>ˈæp</td>
<td>ˈsʌm</td>
</tr>
<tr>
<td>6</td>
<td>Substitution due to /ə/ sound</td>
<td>ˈmeɪɡə ˈziːn, ˈsɛntə</td>
<td>ˌmeɪɡə ˈziːn</td>
<td>Magazine, Center</td>
</tr>
</tbody>
</table>

Vocalic substitution was the second sub-category of sound substitution errors. English comprises twenty vowel sounds and each vowel sound possesses certain specifications regarding its production and slight variation in articulation. From the analysis of passages, vowel sound replacement appears to be a key category where learners substitute vowel sounds instead of letters.

The analysis of gathered data highlights a few vowel sounds which are used instead of letters. Except for sound /i/ which has a similar form with the letter “I”, all other vowel sounds were
different in form and shape but learners used them unconsciously as a replacement for letters. For example, the spelling of <up> and <some> are quite common in usage but the learners converted the phonemic transcription into spellings and wrote the spellings as “Ap” and “sam”.

Similarly, the spelling errors of <good> and <books> are quite unnatural because students at the very basic level know these spellings but during the conversion of phonemic passages into spellings, learners wrote them as “god” and “boks” which was the partial conversion of phonemic transcription into spelling that can be considered the influence of sounds on spellings. From the all-above-mentioned sounds, no logical justification develops except considering it as an impact of continuous phonemic transcription causing these kinds of sound substitutions.

Table 4: Diphthongal Substitution Errors

<table>
<thead>
<tr>
<th>Serial no</th>
<th>Diphthong Substitution Errors</th>
<th>Spelling Errors</th>
<th>Phonemic Transcription</th>
<th>Correct Spellings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Substitution due to /aɪ/ sound</td>
<td>Raiting, Said</td>
<td>/ˈraɪtɪŋ/</td>
<td>/saɪd/</td>
</tr>
<tr>
<td>2</td>
<td>Substitution due to /eɪ/ sound</td>
<td>Seif, Mein</td>
<td>/səf/</td>
<td>/mɛn/</td>
</tr>
</tbody>
</table>

Combinations of vowel sounds are known as diphthongs. A diphthong transitions smoothly from one vowel sound to the next without any articulatory jerks or breaks. They are also called gliding vowels. Commonly, language learners easily memorize these diphthongs due to the prominent gliding feature. Here the usage of diphthongs in place of letters in a word falls under the area of sound substitution errors.

While analyzing the data, only two diphthongs were explored under the category of substitution errors. One repeatedly explored error was the word side phonemically labelled as /saɪd/ and the participants converted the same form in spelling as *said. As a substitute of diphthongs, the majority of participants transformed these phonemic symbols into orthography. They replaced /aɪ/ / diphthong with letter<a>.

Diphthong / eɪ / is formed by the amalgamation of two short vowel sounds / e / and / ɪ /. In the Pakistani context, learners commonly confuse the diphthong / eɪ / with long / a / sound, like the one found in the Urdu word ‘khai’ (sports). Based on the evaluation of gathered data, orthographic errors are found in words <safe> and <main> which are quite common in usage but learners misspelled them as “seif” and “mein” as partial conversion of phonemic transcription of | seif | and mein/ into letters. However, limited participants committed these types of spelling errors under the effect of / eɪ / sound on the word forms of the study participants.

Findings:

Findings of the study show the negative impact of sounds on spelling causing spelling errors, rather it highlighted those particular sounds that create more indistinctness between letters and sounds. Limited groups of spelling faults occur due to the non-phonetic nature of the English language ignored by the researcher, only those categories were added that directly show the letter sound effect in phonemic transcription causation of spelling problem.
From the twenty four consonant sounds, the subjects committed more sound substitution errors in eight sounds that are /ð/, /ʃ/, /tʃ/, /s/, /k/, /z/, /f/ and /w/.

Certain vowel sounds caused sound substitution errors, which occurred in the presence of /i: /, /i/, /æ/, /o/, /a/, /ʌ/ and /ə/. Although in the case of these vowels’ substitution in spelling, any particular criterion was not designed.

From all phonemic symbols, diphthongs show fewer influence on spellings. Only two of them, / ai /, and / ei / had an effect on spellings by replacing sounds inspite of letters in the given words.

**Discussion:**

In the classroom environment, language instructors focus more on learning and recognition of letters than the sounds of these letters; hence users face difficulty in acquiring letter-sound competency. As an outcome of the different ways that sounds are spoken, many non-native variants have developed (Sheikh, 2012). Due to this, the course of Phonetics and Phonology, a productive course offered in most language programs, is supportive to bring refinement in the pronunciation of language students.

Within the content of Phonetics and Phonology, phonemic transcription is practiced for phonemic awareness and to improve the pronunciation of language learners. The present study was found different from former studies as the result of the study develop a connection between phonemic transcription and spelling that was not engrossed earlier in the course of Phonetics and Phonology. The current study was not undertaken with any specific bias against phonemic transcription. Rather, it was based on our experience and observation and the findings of the study quite validate it. Once this negative impact of phonemic transcription on learners’ orthographic habits has emerged, this will call for more remedial experimental studies to fix this issue or at least curb it.

O’Connor (2003) examined various kinds of pronunciation errors and observed a systematic pattern in their occurrence. Most of these pronunciation errors committed by non-native speakers have sound substitution errors where the second language sounds were substituted with the closest sounds of the first language. In the same way, the analysis of data reveals various kinds of substitution errors, further dividing them into consonantal, vocalic, and diphthongal substitutions in the spellings of second language learners. But here sounds are substituted in the spellings as a result of continuous phonemic transcription practice. Similarly, Enli (2014) studied the pronunciation difficulties of Mandarin, Chinese learners’ by examining the segmental properties of English sounds. The analysis of data revealed various consonantal sounds that can cause various pronunciation problems due to the overlapping of Chinese and English sounds. The findings of the present study also support the impression of sounds on learners’ learning process but here this influence reflects in spelling rather than pronunciation. In the case of segmental features, few consonant and vowel sounds cause spelling errors whereas in the case of diphthongs, substitution is rarely found in the spellings of target language learners.
Conclusion:

The current study was undertaken to find the impact of phonemic transcription on the spelling ability of language learners at the Diploma Level in NUML, Functional Courses (FC) department. Only the segmental features were focused on by the researchers which included consonants, monophthongs and diphthongs. The study's findings unmistakably point to the detrimental effects of phonemic transcription on language learners' standard English spellings; however the effects vary depending on the sounds. Consonants and vowels seem to reason more spelling errors whereas diphthongs appear less problematic in this regard. Most of the consonant sounds produced more spelling errors because of the resemblance between the consonant sounds and letters of English but a few of the different consonant sounds also appeared as the consonant substitution error. Due to these individuals' use of sound-letter correspondence, pure vowels also exhibited spelling mistakes. Compared to the vowel and consonants, the study participants easily recognized diphthongs due to the gliding quality and, resultantly, fewer errors seemed under the effect of diphthongs.

Recommendations:

The findings of the research could be helpful for the teachers teaching the subject of Phonetics and Phonology to modify their teaching practices according to the problematic sections mentioned in this research. After a detailed analysis of the data, we are in a position to offer the following recommendations for future researches:

- Firstly, Phonetics and phonology teachers must acknowledge the occurrence of the sound-spelling link. In this regard, Phonetics teachers should be trained through workshops and training programs to understand this discrepancy between sounds and letters of English instead of providing them with the theoretical concept about sounds. This problem can be resolved by providing phonemic knowledge simultaneously with letters.

- Secondly, the subject of Phonetics and Phonology should not be practiced in isolation, rather it should be addressed as an integrated skill with reading and writing skills. With this technique, phonemic transcription and awareness of phonemes should be offered simultaneously. As a result, the impact of sounds on spellings could be lessen to a greater extent.

- Thirdly teachers engaged in teaching Phonetics and Phonology need to pay equal attention to sounds and spelling as a regular classroom practice instead of just concentrating on phonemic transcription and pronunciation.

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