

# Exploring Spelling Errors with Relation to the Phonological Syllable Structure in the Writings of Saudi ESL Learners

Fawaz Ali Ahmed Qasem<sup>1</sup>

<sup>1</sup> Department of English, College of Sciences and Arts, University of Bisha, Al-Namas, Saudi Arabia

Correspondence: Fawaz Ali Ahmed Qasem, Assistant Professor, Department of English, College of Sciences and Arts, University of Bisha, Al-Namas, Saudi Arabia. E-mail: faqasem@ub.edu.sa or Fawazrajehbu@gmail.com

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## Abstract

Making spelling errors is one of the common issues faced by learners in any language as Second Language (SL) at the early stage of learning. This study investigated the spelling errors in the writings of undergraduate B.A. English students, University of Bisha, Al-Namas, Saudi Arabia. The study explored the spelling errors' phenomenon with relation to the phonological syllable structure of words where the spelling errors were classified into three categories of words, (1) mono-syllabic, (2) di-syllabic, and (3) tri-syllabic and complex syllabic words. The researcher analyzed the spelling errors with relation to the sounds/phonemes positions in each syllable, (a) onset position, (b) nucleus position, and (c) coda position spelling errors. The results showed that Arabic-speaking learners made more spelling errors in tri-syllabic and complex syllabic words compared to the spelling errors in mono-syllabic words. The results explored that learners made more spelling errors in the nucleus position with 54.85% and fewer errors in the coda position 36.40%. Interestingly learners made a small number of errors than the other groups with 8.75% in the onset position. This suggested that English vowels, being in the nucleus position, are a more problematic position for Arab learners than consonants. The omission and the substitution spelling errors were more frequent and high compared to other categories. The study explored that the spelling errors are attributed to the different orthographical and morpho-phonological systems of L1 and L2 including the letter-to-sound correspondence and sound-to-letter correspondence, homophones, silent letters. The study concluded with some solutions to help learners avoid the spelling errors such as the importance of the phonological awareness of ESL.

**Keywords:** English as second language, spelling errors, syllable structure

## 1. Introduction

Productive skills, writing, and speaking are challenging for learners because they require not only a rich knowledge of grammatical rules but also well cognitive arrangement, organization, and presentation ideas that are needed for a successful message to be delivered. Importantly speaking, though we have many rich and various studies on the spelling errors in the literature, along with teachers' guidance and the textbooks designed as such to focus on this issue, the learners still make various spelling errors. The spelling of L2 is problematic for learners in their early stages of learning. This entails that it is crucial that the researchers continue to look at the phenomenon of spelling errors and find ways to minimize this issue especially with the fast development of technology and the emergence of recent approaches of language learning and teaching.

This study aims at investigating the common spelling errors in the writing essays of undergraduate B.A. Arab learners of English, University of Bisha, Al-Namas, Saudi Arabia. In this study, we explore the spelling errors in the corpus collected based on various categories. We look at (1) Cook's classification of spelling errors (1999), and (2) types of words' syllable, mono-syllabic words, disyllabic, tri-syllabic, and complex syllabic as one group, (3) phonemes' positions in the syllables, (1) onset position, nucleus position, and coda position. The study attempts to present and highlight the common spelling errors of Arabic-speaking learners of ESL with reference to syllable structure and present the causes behind the spelling errors and suggest a few remedies and solutions for the spelling errors.

### 1.1 Research Questions

1) What are the frequent spelling errors existing in the data of the undergraduate BA of English, Arabic-speaking

EF learners, at University of Bisha, Saudi Arabia, with relation to the syllable structure and types?

- 2) Which syllabic words of English have more spelling errors? Is it mono-syllabic, disyllabic, tri-syllabic words, or complex syllabic words?
- 3) Which element of the syllable (onset, nucleus, coda) cause more spelling errors?
- 4) What are the common causes of spelling errors?
- 5) What are the solutions to minimize and avoid spelling errors and the implications of spelling errors in nature of teaching and learning any language as L2?

## 2. Literature Review

Mastering spelling as an important element of writing skills is both challenging and problematic for the learners of SL, especially if SL has complex orthographic and phonological systems. Though English is considered as one of the easiest languages to learn and is spread worldwide, but still learners face difficulties to master the spelling of English. Spelling system in English is complex and equally problematic even for native speakers of English due to the difficult orthographic system of English including the inconsistent phonemes-letters correspondence (Frost, Katz, & Bentin, 1987; Holmes & Carruthers, 1998; Burt & Tate, 2002; Seymour, Aro, & Erskine, 2003). Through this study and also in the literature of Error Analysis (EA), one could notice that Arabic-speaking learners of ESL have their larger portion of the spelling errors compared to the learners of other languages, to that of native speakers of English. There is a constant need to assess the spelling errors primarily in similar contexts of Saudi ESL learners to know the causes and suggest some solutions to avoid making more spelling errors.

Wang and Geva (2003) explored phonological and orthographic elements by looking at the spelling performance of 30 Cantonese Chinese children studying ESL to that of 33 native English-speaking (L1) children based on lexical and visual-orthographic processing. They indicated that the Chinese-speaking learners of ESL depended more on holistic, visual information rather than phonological patterns to extract orthographic patterns in English spelling. Based on a spelling test of 36 female Saudi undergraduate students with filling tasks of a listening dialogue, Al-Jarf (2009) conducted a study to explore the spelling errors and justifications behind making the spelling errors. She found that most spelling errors were phonological (63%) and orthographical problems (37%). The phonological problems were related to mishearing while orthographical problems were related to double consonants, vowel digraphs, silent vowels, and consonants, and homophones. In similar study, Al-Jarf (2010) also attempted to account for the spelling errors in the EFL context, Saudi Arabia, based on collected writing essays corpora. The corpora were gathered from tasks and tests during the academic year teaching. She classified the spelling errors into three categories, (a) whole word errors, (b) faulty graphemes, and (c) faulty phonemes. The causes of spelling errors were due to phonological and orthographic which are interlingual and intralingual. Learners were having spelling errors due to phonological issues like mishearing parts of words or orthographical issues like words having similar sounds.

Allaith and Joshi (2011) examined the influence of the Arabic phonological system on spelling words. They found that the absence of some consonants in Arabic such as /p/ and /v/ could be the reason behind many spelling errors in English. Therefore, the absence of those sounds caused confusion and the Arabic-speaker students of ESL tend to replace them with quite similar sounds such as /b/ and /f/. Thus, the study confirms the importance of phonological awareness for L2 spelling. Alhaisoni et al. (2015) investigated the spelling errors of 122 male and female EFL students with ages ranging from 18 to 20 years studying at Ha'il University, Saudi Arabia. The study is based on writing essays' samples on one of four proposed topics. The study was conducted according to Cooks' (1999) classification of spelling errors, transposition, insertion, substitution, and omission. The study findings demonstrated that Saudi learners committed the highest proportion of errors including the substitution errors (34.90%) and the omission errors (39.60%). It was found that wrong pronunciation and improper usage or application of vowels are behind the spelling errors along with l interference of Arabic as their mother tongue in addition to the irregularity of English spelling where there is no connection between English graphemes and phonemes.

Albalawi (2016) also examined the frequent spelling errors made by eighty Saudi female learners who studied English as necessary requirements to begin their academic studies at Prince Fahad Bin Sultan University, Saudi Arabia. The study findings indicated that the omission errors (59%) were the highest among the overall spelling errors reported. The study found that the causes of spelling errors were mother tongue interference, irregularities of the orthographic English system, mispronunciations, and incorrect use of English vowels. Deacon (2017) based on Vowel Blindness Hypothesis (VBH), investigated English spelling errors by Arab Learners of English (ALEs).

VBH says that Arab students were weak in identifying the short vowels due to their absence in the Arabic language. Due to this reason this weakness vowel omission errors were more frequent than vowel insertion errors. The researcher explored that the reasons for ALEs spelling errors were due to the lack of knowledge of grapheme to phoneme.

Interestingly, Arab-speaking learners of ESL make more frequent spelling errors in comparison to the speakers of other languages like Korean, China, and Japan. Fender's (2008), on a study of Arabic-speaking learners of English groups and other learners groups from Korea, China, and Japan, found that Arab Learners of English (ALEs) made more errors compared to the other group. In quite similar contexts of Arabic-speaking learners as SL, recent studies attempted to account for spelling errors where they found the mother tongue, Arabic influence, and the different linguistic systems of Arabic and ESL (Al-Busaidi & Al-Saqqaf, 2015; Alsaawi, 2015; Sabbah, 2015; Al-Oudat, 2017; Albeshir, 2018; Al-Otaibi, 2018; Gibreel & Babu, 2018; Othman, 2018; Alenazi, 2018).

### 2.1 Orthography and Phonology Knowledge

Orthography refers to the study of writing system of a language including how letters are spelled. Arabic and English have different orthographical systems. Arabic has 28 letters is written cursively from right to left with no lower and upper case represented in letters. English has 26 letters written from left and right. Though Arabic has more alphabets compared to English but English's spelling system is difficult to learn as it has many irregularities and inconsistencies as there the letter-to-sound and sound-to-letter correspondences are more frequent compared to Arabic. Consider the vowel letter 'u' for instance in the letter-to-sound correspondence, which is pronounced differently in all following words, **u**niversity, **su**n, **ju**ry, **pu**t, **bu**ry, and **mi**nute or the vowel 'o' in the words, **w**omen, **hi**story, **no**, **co**mb, **ho**t, and **wh**o. Vowels sounds are more problematic when it comes for sound-to-letter correspondence as in the sound /i:/ is pronounced the same in many situations with different letters and positions as in the words, **ski**, **ma**chine, **she**, **see**, **de**ceive, **fi**eld, **pe**ople, and **ke**y. Arabic as Semitic language has rich morpho-phonological features with consonantal roots and less vowels. Arabic also has more back, pharyngeal and laryngeal sounds. For more details on Arabic orthography, phonology see McCarthy (1994), Abu-Rabia (1997), Mitchell (1970), Watson (2002). Learners make spelling errors because of complex nature of orthographical of English writing spelling system and the difference of Arabic and English writing systems, Jarf (2008).

### 2.2 Syllable Structure

The definition and representations of syllable structure has been looked in different ways, phonetic, phonemic, or phonological, and there are various accounts and streams in literature (Fudge, 1969; Kiparsky, 1979; Cairns & Feinstein, 1982; Clements & Keyser, 1983; Van der Hulst, 1984; Kiparsky, 2003). The syllable is generally defined in the literature as a word or part of word which necessarily contains a vowel. The phonemes in each syllable are arranged in terms of position and parts of each syllable. There are main positions of the phonemes in each syllable, (a) Onset, the initial position of the syllable which carries consonants only, (b) Nucleus, or *the peak*, is the position which carries vowels only, (c) Coda, the syllable-final position which carries also consonants. Syllables may have Onset, Nucleus, and Coda as the word, *son* (CVC) which contains Consonant (C) in the onset position, a vowel (V) in a Nucleus position and another consonant (C) in the final position as in Figure 1.

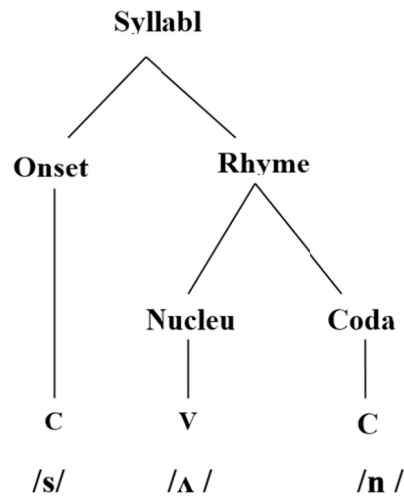


Figure 1. Syllable structure of 'son'

A syllable in English can have only one nucleus (Vowel) or onset and nucleus or coda along with the nucleus. Onset and coda are optional in a syllable in English but nucleus is obligatory in the syllable. Moreover, words in terms of syllable structure can be classified into:

- Mono-syllabic words which consist of only one syllable as the word, 'son' (CVC)
- Di-syllabic words which contain two syllables as the word, 'about' (V-CVC)
- Tri-syllabic words which have three syllables as the word, 'cucumber' (CV-CVC-CV).
- Complex syllabic (poly-syllabic) words which consist of more than three syllables as the word, 'fundamental' (CVC-CV-CVC-CVC).

### 3. Methods

#### 3.1 Participants

In this study, the participants of the study include 128 writing compositions of undergraduate B.A. English Department, Al-Namas, at the University of Bisha, in Saudi Arabia. The participants were mono-lingual speakers of Arabic with similar age ranging between 20–22 and with varied proficiency level. They study for four years English program. The data was collected during academic semesters from various courses based on writing essays, activities and tests. The sample population is limited to University of Bisha only because of the availability of the researcher as the researcher teaches in the same university.

#### 3.2 Data Collection

The common tools in this study include (a) writing samples of 128 of the participants and (b) informal interview with some of the English teachers at the Department of English, University of Bisha, Saudi Arabia. The writing samples were based on writing essays tasks inside classroom and exams answer papers. The topics of the writing samples include open questions. The data was collected before COVID-19 breakout during the face-to-face classes. To ensure the validity of the study, three teachers revised the questions and writing samples manipulated in this study. Due to the less number of the participants, the data collected from various levels 2–6 grade level. The repeated errors of the same words are ignored in the analysis. The writing sample taken from the participants varies based on the learners' competence on writing. The second tool used in the study was the informal interviews with teachers which helped us get a clear picture on the causes and the solutions to the spelling errors.

#### 3.3 Data Analysis

As many other studies, the analysis of the spelling errors in this study followed Cook's classification of spelling errors (1999). The classification consists of (1) omission, (2) substitution, (3) insertion, and (4) transposition errors. The data was categorized and coded based on the study's aim. After coding the data based on Cook's taxonomy, the spelling errors also were categorized and coded with reference to the types of words' syllabification, (a) mono-syllabic words, (b) disyllabic words and (c) tri-syllabic and one complex syllabic word.

This helped us to show which words carry more spelling words, mono-syllabic words, di-syllabic words, or the third group of words with complex syllabification. Classification of spelling errors was used on the each syllable structure parts, onset, nucleus, and coda. This was to identify which part of syllable has more and frequent spelling errors.

#### 4. Results and Discussions

This section deals with the results of the study and an analysis of spelling errors in details. The spelling errors were categorized, coded, and analyzed according to Cook's (1999) classification of errors which includes: Omission, Substitution, Insertion, Transposition errors (OSIT). Then we look at the relation of spelling errors with syllables.

Table 1. The types of spelling errors (OSIT)

| Type of Errors | Freq | %     |
|----------------|------|-------|
| Omission       | 162  | 39.32 |
| Substitution   | 131  | 31.79 |
| Insertion      | 87   | 21.11 |
| Transposition  | 32   | 7.78  |
| Total          | 412  | 100   |

Table 1 shows that the overall spelling errors committed by the students in the writing samples in this study were 412. The omission errors were the highest (39.32%) followed by the substitution errors (31.79%). The results showed that the participants made insertion spelling errors (21.11%) less than substitution errors. The least type of errors found in the data the students made was the transposition spelling errors (7.78%). The study supported many studies in the literature which found that omission and substitution errors were high compared to other categories of spelling errors as in (Al-Hassan, 2006; Al-Jabri, 2006; Al-Harrasi, 2012; Alhaysony, 2012; Alhaisoni, Al-Zuoud, and Gaudel, 2015; Albalawi, 2016; Al-Sobhi, et.al, 2017; Othoman, 2018; Atatsi, and Amoakohene, 2019). The most common omission errors were dropping the vowel letter [-e] at the end of words as in \*college or for 'college' or substitution errors of vowels, as [a] in the place of [u] and [o] as in \*camplet for 'complete'.

The data of was classified further based on syllabification of words into three categories, (a) mono-syllabic words, disyllabic words and tri-syllabic and one complex syllabic word. This was to show which words were more problematic for the participants and they made more frequent spelling errors. Table 2 shows that majority of the spelling errors the participants made were with tri-syllabic and complex words (42.48%) and followed with di-syllabic words (35.92%). The participants made less spelling errors in the mono-syllabic words category (21.6%). The data explored that the participants have many spelling errors with longer words which carry many syllables. However, the participants made spelling errors in a quite big number of words with simple and mono-syllabic words compared to the spelling errors in the other categories. This is due to the frequent reoccurrence of this type in the data.

Table 2. Spelling errors with reference to the syllables patterns

| Syllables types                         | Freq | %     |
|---|------|-------|
| Mono-syllabic words                     | 89   | 21.6  |
| Di-syllabic Words                       | 148  | 35.92 |
| Tri-syllabic and complex syllabic words | 177  | 42.48 |
| Total                                   | 412  | 100   |

The clear-cut cause of spelling errors is the different linguistic system of ESL and Arabic (interlingual) where Arabic phonologically and orthographically is different than ESL. Many other studies in the literature have showed that the writing errors including the spelling errors were due to the interference of mother tongue (El-Sayed, 1982; Randall & Meara, 1988; Yin & Ung, 2001; Mahmoud, 2005; Al-Jarf, 2010; Emery, 2005; Al-Khresheh, 2011; Mourssi, 2013; Al-Shujairi & Tan, 2017; Al-Sobhi, Rashid, Abdullah, & Darmi, 2017; Al-Shahrani; 2018; Altamimi & AbRashid, 2019). Interestingly also Figure 2. Shows that participants made less spelling errors in the onset position with 8.75% and the data showed that the nucleus position of the vowels is more problematic for the SL learners where they made more spelling errors with 54.85%. The coda position

which includes consonants and syllable-final position is less than nucleus position with 36.40%. The results explored that spelling errors in vowels are more than in consonants which suggests that vowels sound in English are more problematic and they are difficult to master faster by the learners of ESL. The inconsistency of English spelling rules is one of the causes of the spelling errors that make the Arabic-speaking learners of ESL commit more spelling errors.

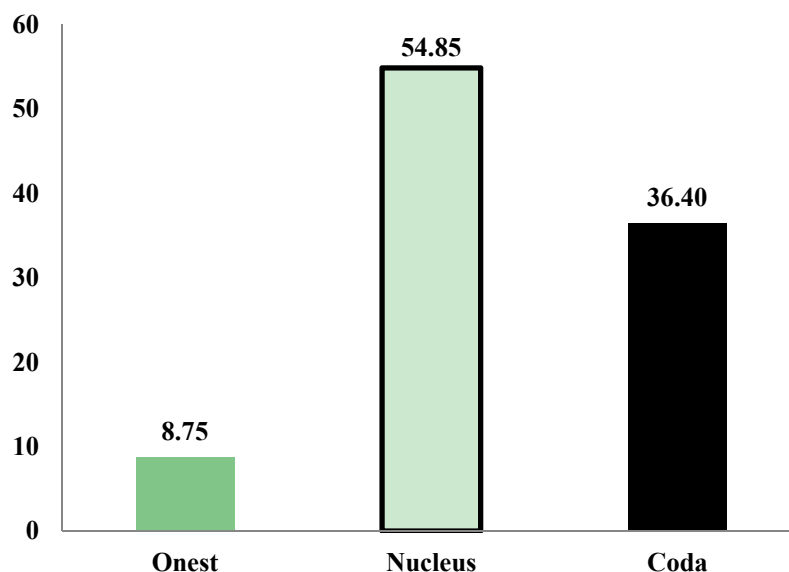


Figure 2. Spelling errors and syllable structure parts

Interestingly Figure 2 shows that participants made less spelling errors in the onset position with 8.75% and the data showed that the nucleus position of the vowels is more problematic for the SL learners where they made more spelling errors with 54.85%. The coda position which includes consonants and syllable-final position is less than nucleus position with 36.40%. Examples of spelling errors with relation to the syllable phonemes are given in Table 3. The results explored that spelling errors are more within vowels which shows that vowels sound in English are more problematic for Arabic-speaking learners. The inconsistency of English spelling rules makes the Arabic-speaking learners more spelling errors. The main reason is that Arabic is consonantal language described by Randall and Meara (1988) and Arab learners to make more spelling errors Emery (2005) found that the most common spelling errors among her Arab participants were the vowels.

Table 3. Spelling errors in Onset, Nucleus, and Coda in the data

| Errors Category             | Incorrect Spelling | Correct Spelling |
|-----------------------------|--------------------|------------------|
| <b>Onset errors (2%)</b>    | *basctpol          | Basketball       |
|                             | *Footpall          | Football         |
|                             | *resbect           | Respect          |
|                             | *klimite           | Climate          |
|                             | *Beople            | People           |
| <b>Nucleus errors (71%)</b> | *hapfully          | hopefully        |
|                             | *because           | Because          |
|                             | *anderstand        | Understand       |
|                             | *camfortable       | Comfortable      |
|                             | *restorant         | Restaurant       |
| <b>Coda errors (27%)</b>    | *knowlage          | Knowledge        |
|                             | *Inportant         | Important        |
|                             | *tecnology         | Technology       |
|                             | *peoples           | People           |
|                             | *produce           | Produce          |

## 5. Causes and Solutions to Avoid Spelling Errors

There is to a great extent, close and consistent agreement regarding the causes of spelling errors in the existing literature of Error Analysis, this can be observed from the studies present on Arabic speaking learners Of ESL writing corpus or from the samples of other languages speakers. Some studies have focused mainly on the causes and remedies and solutions of spelling errors in the data of Arabic-speaking learners of ESL as in (Peters, 1985; Azzam, 1990; Cook, 1997; Hammond, 2004; Bahloul, 2007; Tavosanis, 2007; Kohnen, Nickels, & Castles, 2009; Field, 2009; Allaith & Joshi, 2011; Al-Jayousi, 2011; Stirling, 2011; Banha 2013; Mahmoud, 2013; Al-Breiki, 2014; Al-Bereiki & Al-Mekhlafi, 2016; Althobaiti & Elyas, 2019). Based on the data analysis and the informal interviews in this study with the teachers of Arabic-speaking learners of ESL, the researcher here focuses on five main factors causing spelling. Firstly, the most common cause, is the interference of mother-tongue model in the native speaker's mind. Most of writing errors in many studies investigated writing samples of Arabic-speaking learners or of ESL were interlingual because of its different orthographical and morpho-phonological system of ESL. For instance, Arabic-speaking learners make many spelling errors in vowels writing as Arabic has more consonantal writing letters and vowels are not clearly represented as English they are released as diacritic marks. Secondly, English's inconsistent and irregular spelling system leads to many spelling errors in the data of ESL learners as. It is found in this study that many spelling errors were intralingual where the learners made many vowel spelling errors as there is no letter-to-sound correspondence or sound-to-letter correspondence. Thirdly, on one hand, the learners' less intrinsic motivation leads to making many writing errors including spelling errors and hinders the speed of mastering L2 skills including writing. On the other hand, the writing errors and spelling errors were due to the insufficient and effective input learners get during the learning stage from teachers. Fourthly, the lack of interesting activities and tasks on spelling in particular and writing leads to the students' many spelling errors. Teachers' being lenient while grading the writing tasks, activities, quizzes, tests, of spelling errors is another cause of continuation of spelling errors' habit and being not careful of spelling errors while writing. Fifthly, the advanced technology in many equipments has a negative impact on spelling of words during writing as learners usually communicate via audio and video and they use less writing. They also shorten words into numbers to communicate faster when they write messages. Finally, to some extent, the less focus of spelling issues in L2 while designing the textbooks with interesting tasks and activities is another cause of learner's weakness on this regard.

Solutions to help learners' make less of spelling errors are as follows:

- 1) Teachers need to take care more and highlight the different linguistic systems and orthographical and morpho-phonological features via Contrastive Analysis during teaching all skills especially writing skill.
- 2) Designing interesting and well-designed activities and tasks on spelling during teaching writing skill courses.
- 3) Mastering the pronunciations of all the sounds of ESL well helps a lot in decreasing the spelling errors.
- 4) Enhancing learners' motivation towards learning of L2.
- 5) Teachers need to reward learners.
- 6) Teachers should be strict with dealing with learners' spelling errors.
- 7) Students' Self-assessment tasks and activities enhance learners' awareness in reducing spelling errors and writing errors.

## 6. Conclusion

The study explored that Arabic-speaking learners of ESL make more spelling errors in the complex syllabic words to be the simpler syllabic words. Looking at the spelling errors In relation with syllabification structure of words, it is observed, that spelling errors are comparatively higher in nucleus, coda, and comparatively less in the onset. This research supports the fact that English vowels, being in the nucleus position, are more frequent and problematic for Arab-speaking learners of ESL compared to the consonants. Furthermore, the different orthographical and morpho-phonological system of Arabic and ESL is behind many spelling errors in addition to the inconsistent and irregular spelling systems rules of English. Teachers and learners, hand-to-hand, can minimize the spelling errors in the writing composition of learners. Learners' motivation towards learning and teachers' enlightening learners of ESL with effective and well-organized tasks and activities on writing can minimize the spelling errors. Making learners aware of the different linguistic systems (orthographical and morpho-phonological features) of L1 and L2 help learners avoid spelling errors.

One of the important recommendations for further study is that conducting task-based study on spelling errors

covering all the words with all the syllabic types will give clearer picture of the nature of spelling errors.

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