



The Influence of Orthography in the English Phonological Acquisition by Arab ESL Learners

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Abstract

Orthographic patterns can influence pronunciation in a second language (L2). It is unclear if the same orthographic structure affects L2 speech and language comprehension. In both output and observation tasks, Arab ESL learners employed vowel and consonant length discourse in their second language (Watson, 2021). This article indicates that word identification tasks are very challenging for Arabic ESL learners. Arabic learners tend to be inaccurate in managing vowels in English phrases (Alotaibi et al., 2018). They are more prone to making mistakes involving vowels than individuals of other native language backgrounds. This suggests that even a little instruction in phonetics may increase output in the chosen language, which should be noted as a facilitator of the speaking skill that Arabs go through on their way to becoming more proficient in English (Alhazmi et al., 2019). Hence, the same orthographic phenomena directly influence pronunciation and language comprehension. Different studies have found a correlation between competence and orthographic impact, although these correlations are different in naturalistic and taught circumstances (AlKendi, 2020; AlJarf, 2019; Brosh, 2019). The goal of this exhaustive review is to gain a better understanding of the impacts that orthography has on L2 phonology by correlating the effects of influences on phonetics and verbal fluency. ESL classrooms should focus on phonetics instructions in teaching Arab ESL learners.

Keywords: *orthography; L2; L1; phonological awareness*

Introduction

The way L2 speakers generate and interpret L2 sounds might be influenced by the orthographic patterns of their second language (L2). Research on L2 phonology, however, tends to focus on small-scale studies examining the effects a certain orthographic form has on the generation of a single sound. Furthermore, no studies show how orthography influences L2 speakers' phonological representations by influencing their output. As a result of these studies being so small, it has not been feasible to look at criteria such as competency, selective memory, and length of time spent in a target language setting that might predict the influence of orthography on L2 speech output. Orthography was shown to influence English phonological learning in Arab ESL learners, according to the findings of 17 separate research conducted over the previous five years that were evaluated and analysed.

Impact of Orthographic Patterns on the Creation of Second Language Speech

It can be challenging to master the phonology of a second language (L2). It is essential to note that second languages are typically learnt through a combination of spoken and written information and that the learning of phonology in a native tongue can be hampered by the use of orthographic forms (alphabets) of the foreign language. Many studies show that L2 speakers' speech production and understanding are influenced by a language's orthographic patterns and structures. Even though orthographic effects might lead to sound substitutes, the most typical results are sound enhancements (Abu-Rabia & Kitany, 2022). In most cases, L2 speakers replace another sound for a target sound because of how the sound is spelled. There have even been reports of L2 speakers producing sounds that do not correspond to the intended language's alphabet. Especially in the first phases of second language acquisition, the interpretation and synthesis of speech tones in the second language are influenced by the orthographic patterns of the second language, which might result in pronunciation that is not native-like. For example, native learners of American English L2 can generate the identical destination flap / as [t] whenever the wording is t> and as [d] when the word is d>, as in the terms "lady" and "beauty." Some replacements occur because of incongruences between the grapheme-phoneme forms of communication of the native language (L1) and the target language (L2). This happens when speakers wrongly assimilate a phoneme from their L2 language with a phoneme from



their L1 when the identical grapheme expresses both phonemes. For instance, some English L1 novice learners of Arabic L2 generate [v] in Arabic words beginning with a [v] because this is what the syllable [v] symbolizes in their native English. In contrast, it symbolizes [b] in Arabic, and [v] does not prevail. This occurs because the grapheme [v] signifies a different sound in English than in Arabic, where [v] does not exist. It has been found repeatedly that language learners are susceptible to the impacts of native grapheme-phoneme notations.

The inter-orthography effect may be seen in the following case. Using L1 rules, an L2 speaker can encode a piece of text into a piece of sound in the L2, for example, to produce an orthographic effect. According to previous studies, these effects have been linked to a lack of unity between L1 and L2 grapheme-phoneme interactions, disrupting sound discrimination in novice and non-native listeners. Good replacements in L2 speech output are influenced by the number of characters in the wording of a sound's pronunciation. The native grapheme-phoneme messages of L2 users influence the recompilation of English orthographic forms, as Saeed Al-Sobhi et al. (2017) discovered in a set of experiments. As with vowels, Arabs wrote the identical English long vowel sound as long when using double syllable letters. In cross-orthographic testing, the findings were validated by English L2 users who were also native Japanese learners. This language uses stylistic length for vowels and consonants but is written in a script other than the Arabic alphabet.

In another study, researchers found that the long-short phonological disparity is authentic: Native Arab speakers of English generated homophonic English words as minimum pairs separated by a short or long vowel, for example, creating finish as [fn], with a solitary [n], and Finnish as [f], with a descriptive [n] (Fragman & Mor-Sommerfeld, 2021). Orthographic impacts on native phonology have been explained in two ways in the literature. There are orthographic impacts on speech production and perception in text-literate individuals because of the influence that orthographic forms have on phonological perceptions.

Phonological Awareness as a Function of Orthographic Forms

Orthographic forms have influenced native language phonological recognition tests since the 1970s. Masrai's (2020) research has shown that using so-called silent characters in orthography causes native users to count more morphemes in phoneme-counting activities. Despite the reality that orthographic patterns have been shown to influence both linguistic knowledge in native languages and expressive language in L2 speakers, there has been little study on orthographic impacts on linguistic knowledge in L2 speakers.

A closer look at Jiang's (2018) findings shows that naive Arabic learners added syllables by inserting an epenthetic sound into the printed language of L2 words. The consonant cluster was lessened when they solely learned the spoken version of the L2 terms (Jiang, 2018). Further investigation into whether orthography impacts pronunciation and phonological processing in second-language speakers is critical. Researchers looked at how the number of letters in a word affected phonemic awareness and output in adult Arabic L2 learners (Jiang, 2018). L2 Arab learners skipped one syllable in output and phoneme awareness tests when the triphthong was written with two characters but not when it was written with three. It is impossible to draw definite conclusions from these studies because of the differences in the students' phonological awareness and technical abilities. Students who participated in both activities were examined for their phonological awareness and ability to produce natural-sounding language, and we looked at whether the impact of orthographic on phonological awareness might be used to model the impact of orthographic on pronunciation (Jiang, 2018). Proof that orthography influences phonological conceptions in the minds of L2 speakers would be obtained if the impact was seen in both pronunciation and metalinguistic consciousness tests.

The L2 Phonology Predictive Model for Orthographic Effects

Research on speaker-related factors, which may combine with orthographic impacts to influence phonological acquisition, is virtually nonexistent. Researchers have examined several factors to see if they affect L2 pronunciation (Chen & Schwartz, 2018). Most of the time, they thought of it as a foreign accent or a foreign-looking person. At the age when acquisition began, competency in L2, training and exposure levels, motivation, and aptitude levels, were all considered. However, it is unclear which of these factors will impact L2 phonology in the form of orthographic consequences.

L2 pronunciation benefits motivation, especially integrative motivation. The value placed on sounding like a native speaker is directly related to how similar the two speakers' sound. Language aptitude has two individual parts that have a function in L2 pronunciation, according to Hayes-Harb & Barrios (2021). Two examples of phonemic coding abilities are the ability to distinguish novel sounds and recall them from memory. Similarly, there is strong evidence that better short-term memory benefits.



The highest correlation between native likeness and selective memory in the L2 was seen in one research. L2 English learners with less auditory short memory than those with stronger linguistic short memory rely more on syllable length to identify English vowels, which is critical for this study (Al-Khalefah & Al-Khalifa, 2021). Researchers that focused on the impact of orthographic information on L2 phonology discovered a connection between exposure time and L2 orthographic phonology. There was, however, no connection with the length of stay (Watson, 2021). In this study, we looked at whether orthographic impacts on L2 language output and language comprehension may be influenced by some of the characteristics that affect L2 speech native similarity.

How Consonant Span Awareness Affects Consonant Output

In learners' pronunciation, orthographic forms had less impact if learners were more conscious of the length of consonants. For example, if learners felt English contained singleton and geminate vowels, they were more likely to generate long vowel sounds in words typed with double characters in their writing (Alhazmi et al., 2019). A strong connection between linguistic knowledge and verbal fluency supports the idea that orthography-induced phonological concepts generate orthographic influences on L2 speech production. Due to the major factors that contribute to phonetics and orthography, there must be no orthographic impacts on second languages because phonetics and orthography are co-activated in the formation of words.

Since instructed second language students are often subjected to orthographic information from the preschool level and frequently in significant amounts, the impacts on speakers of a second language (L2) may be higher than those seen in native speakers (Alhazmi et al., 2019). Even though L2 learners experience orthographic aspects of the second language after becoming educated in a first language, these learners can decipher the orthographic aspects of the second language by employing the mapping that exists between the typographical and orthographic units of their first dialect (Alhazmi et al., 2019). These kinds of inter-orthographic effects are impossible for multilingual native speakers to experience. The Speech Adaptive Learning and the Sensory Assimilation Model, currently the two most prominent theories of L2 learning vocabulary, do not consider orthographic input. More data is required to have a meaningful theoretical argument about the impact of typography on L2 phonology. Additionally, more data are required for L2 phonology research to contribute to the knowledge of native phonetics.

Almuslimi's (2020) study reveals that L2 orthographic patterns, rewritten according to L1 grapheme-phoneme notations, can cause trained L2 users to make a phonological distinction in their L2 output that does not appear in the original language. Therefore, Arabic L1 speakers who also spoke English L2 rendered the same English syllable in two distinct ways: their pronunciation was shorter than that of native English presenters when the goal syllable was worded with a single syllable, and it was lengthier than that of native English presenters when it was worded with a double letter. This indicates that Arabic developed two separate categories, but native English users only had one classification, and its length was somewhere in the middle of that of Arabic's two categories.

The preceding study was supported by a study that was conducted by Alotaibi et al. (2018). This study found that Arabic L1 users' geminates were, on mean, 1.7 times as long as their singletons. The current study confirmed such effects empirically, in contrast to the prior anecdotal data by Almuslimi (2020), which indicated that a lengthy consonant was created in a single phrase by a small sample of primary school students. Arabic respondents not only generated lengthier syllables than native English speakers in double-letter phrases, but they also generated longer sounds than the native users in single-letter terms. This provides more evidence that Arabic produced two phonological categories, each corresponding to a single target group, and that Arabic was responsible for establishing a phonological contrast in L2 English between geminates and singletons. Importantly, these effects were seen among L2 speakers with over ten years of L2 exposure. The existence of orthographic input did not influence the appearance of orthographic effects since these effects were observed while reading aloud and when performing a delayed repeat of a native speaker's output. Moreover, the phonological pattern of native homophones did not modify the orthographic impact since there were often no variations in gemination when the native dialect included a cognate word or loanword. Although the borrowed words floppy seemed to vary from other words containing the letter p in the study conducted by Almuslimi (2020), similar effects were not seen in the research conducted by Alotaibi et al. (2018). In further investigations, it will be essential to investigate the factors influencing orthographic consequences.

Orthographic Effects on Consonant Output: Predictive Models

The L2 speakers' level of English competence predicts the degree of the orthographic influence on their speech output. Higher CEFR scores among bilinguals and greater results on the Oxford Aptitude



Test indicated a lesser orthographic influence on consonant production (Al-Jarf, 2019). In the past, previous studies have revealed no association between segment nativeness and proficiency. Recognizing that English does not include long consonants may impact fluency more than the multiple sophisticated talents necessary to recognize and generate non-native language parts.

In bilinguals, poor memory may play a role in linear regression. According to earlier research, a short attention span is a powerful predictor of native-like speech. However, naturalistic and instructional environments appear to have different orthographic impact predictions (Almuslimi, 2020). The reason is that while short-term memory might be effective when native speakers encircle one, it is less so in a class situation when input is typically limited and non-native. The correlation between orthographic impact and the percentage of written intake among speakers of other languages was unexpected. To some extent, the lack of consonant duration disparities between speech and writing can be reconciled via additional exposure to writing under realistic conditions (Alotaibi et al., 2018). This is a surprising finding that calls for more investigation. A lower amount of consonant gemination was anticipated among students who expressed a wish to improve their pronunciation.

Vowel Synthesis and Comprehension in Orthographic Forms

Speech output was not altered by vowel spelling. Rather, metalinguistic knowledge was unaffected. In the delayed repetition task, vowel length was impacted by the number of characters in the pronunciation of an English vowel. Using a digraph to spell the same vowel gave it a longer length than using a single vocal letter (Bassetti et al., 2021). Vowel spelling appears to have a greater influence on bilinguals than on first-language speakers, which implies that some first-language speakers may not be aware that English has a variety of vowel sounds (Biglari & Struys, 2021). As well as its size and complexity, it is a distinct category.

Only a quarter of L2 speakers judged that fool and rule did not pair when asked about their knowledge of vowel length during the rhyming assessment test, and fewer than half of those respondents ascribed this to vowel pitch. Vowel length proportions in speech production did not affect the accuracy of L2 speakers in the test. The participants were evaluated on their ability to recognize that consonant orthography does not correlate to varied consonant lengths. In contrast, vowel rhyming judgment examined participants' understanding of how words are spoken.

Regarding vowel production, students with a greater motivation to acquire English speech had a reduced tendency to create homophonic vowels. They used a variety of durations to match the results for sounds (Brosh, 2019). It indicates that students who are more motivated to improve their English pronunciation are also good at learning to pronounce certain words.

Concluding Thoughts

In conclusion, the study found that Arab native speakers of English could form a long-short contrast and employ vowel and consonant length discourse in their second language. In addition, they discovered that the phonological consequences of orthographic changes were predicted by proficiency. In addition, a variety of self-reported characteristics were used in this historical preview. Self-ratings were appropriate for exploratory historical preview, but quantifiable metrics may provide different outcomes, at least for those factors where there is no indication that self and quantitative measurements are connected. This article provides an overview of studies that are significant for investigating the influence of orthography on the acquisition of English phonology. This historical preview aims to establish a correlation between the effects of various influences on phonetics and verbal fluency to achieve a more profound comprehension of orthography's effects on the phonology of L2s.

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