

An Intralingual Analysis of Iranian EFL Learners' Difficulties Caused by the Inconsistency between Spelling and Pronunciation

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Abstract

Pronunciation is a key element in learning a language without which comprehension would be hindered. An analysis of L2 learners' pronunciation errors will help both L2 teachers and learners to identify the most problematic features. Regarding English pronunciation, English deep orthography, in which there are so many inconsistencies between spelling and pronunciation, can affect the correct pronunciation of the learners. This study aimed at investigating this fact by conducting a research on 60 freshmen EFL learners from three universities in Iran. Forty words which show inconsistency between pronunciation and spelling were selected. They were contextualized in 20 meaningful sentences, and then have been presented to the participants. The participants were tested through read-aloud technique. Their pronunciations were transcribed by 2 raters and analyzed by the researchers. The most important finding of this study was that although, generally speaking, English vowels were more problematic for the participants than English consonants, the most problematic features were silent consonants letters. These findings have pedagogical implication in SLA by suggesting that L2 teachers can facilitate the learning process through providing the learners with the problematic words in English.

Keywords: English deep orthography, inconsistency between spelling and pronunciation

I. INTRODUCTION

Because English is recognized as the most widely used language in the world, intelligibility has a great importance in order for English learning speakers to communicate well. Pronunciation,

in this regard, is one of the main factors contributing to intelligibility. Mispronunciation may lead to misunderstanding and may hinder communication almost as the same way as wrong choices of vocabularies do. It may also decrease L2 learners' self-confidence, and consequently may reduce their willingness to communicate.

Despite its crucial role in comprehension and accuracy, teaching correct pronunciation and discovering students' difficulty in pronunciation is, to a great extent, ignored in EFL classrooms. In order to emphasize the lack of attention given to pronunciation in English classrooms, Dalton (1997) described pronunciation as the "Cinderella of language teaching." This lack of emphasis may be due to the difficulty and subjectivity of the job of teaching and assessing speaking and pronunciation. So, compared to other language skills and components such as reading, grammar and vocabulary, fewer studies have been conducted to investigate the problems students have in pronunciation and find the best way to address these problems in L2 classrooms. Pronunciation errors may be due to various factors one of which is the lack of correspondence between English spelling of a word and its pronunciation (Asghari, 1992; Drake & Ehri, 1984; Fox, 2005; Sprenger-Charolles & Siegal, 1997).

A. Pronunciation Errors

According to a general taxonomy of errors introduced by Corder (1975) L2 learners' errors were divided into three groups of intralingual or developmental errors, the source of which traced back to the target language itself, interlingual or interference errors, which are caused by the effect of the first language, and training errors, which are the result of wrong teaching techniques.

Regarding pronunciation, the best category provided for distinguishing different sources of pronunciation errors was developed by Keshavarz (2008) who divided the pronunciation errors into four different groups. The first group consists of errors which may be due to the absence of some target language phonemes (vowels or consonants) in the learners' first language. For example, the consonants /θ/ and /ð/ which do not exist in Persian will lead Iranian EFL learners to pronounce the words *think* and *theas* *[tɪnk] and *[də]. The second type of errors is related to the differences which exist between the first and second language syllable structures. For example, Iranian EFL learners may pronounce *school* as /ʔeskul/ because of the absence of onset consonant cluster in Persian syllable structure. The third group, which is called spelling pronunciation, refers to the learners tendency to pronounce words exactly the ways they are written. For example, pronouncing

colonel as *[kolonel] instead of /kɛ:nəl/ can fit in this category of errors. And finally, the fourth type of errors refers to the learners' tendency to pronounce the silent letters in words. Pronouncing the word *calm* as *[kalm] instead of /kam/ by Iranian EFL learners are among this category errors. Apparently, the first two groups of Keshavarz's (2008) division of errors can be considered as interlingual and the last two groups as intralingual.

The present study is focused on the intralingual errors which are finely defined by Keshavarz (2008, p. 107) as "errors caused by mutual interference of items in the target language". And it aimed at providing sufficient evidence of how English deep orthography leads Iranian EFL learners to commit pronunciation errors or how it helps the learners recognize the correct pronunciation.

B. Theories of Different Orthography Systems

In order to illustrate English orthography, first an elaboration on orthography depth hypothesis (ODH) is provided. According to ODH, first proposed by Katz and Frost (1992), orthography of all languages is divided into two groups of shallow or transparent orthography and deep or opaque orthography. The first group, as its name suggests, is a kind of orthography in which the relationship between spelling and pronunciation is transparent or clear. In other words, in this kind of orthography, the phonemes are represented by the graphemes directly and there is a one to one correspondence between graphemes and morphemes. So, in languages with such orthography, pronunciation of a word is easily predictable according to its spelling and guessing the pronunciation of a written word is an effortless job for both the native speakers and learners of that language. In contrast, in languages with deep orthography, there is an indirect relationship between spelling and pronunciation and there are so many irregular and unusual pronunciation patterns. So, in these languages pronouncing the written words is a more difficult job especially for the learners of those languages.

In this section, some controversies over English language orthography is presented. As for English language orthography, Chomsky and Halle (1968) stated that the relationship between English spelling and pronunciation is indirect and complex. As Chomsky (1970) pointed out English spelling is not related to pronunciation in a regular morphophonological process because the level at which English spelling and pronunciation correlate together is beneath the surface level; that is, it correlates with the lexical representation level of linguistic.

As Falk (1978) nicely explained, English orthography is more phonemic than phonetic. The reason underlying this fact is that English words, to great extent, reflect their etymology. Such systems make the meaning of the words more predictable, while leading the pronunciation to be more problematic.

Emphasizing the irregularity of English orthography, O'Grady *et al.* (1991) categorized the problems with English orthography into the following five groups

1. Silent letters which do not represent any segment such as *g* in *sign*.
2. A group of two or more letters can be used to present a single segment such as *th* in *think*.
3. A single letter can represent a cluster of two or more segments such as *x* in *saxophone*.
4. The same letter can represent different segments in different words such as *i* which is pronounced as /ɪ/ in *give* but as /ai/ in *five*.
5. The same segment can be represented by different letters in different words such as /u:/ which is represented differently in *rude*, *loop*, *soup*, and *sue*.

C. Research Questions

1. Is the inconsistency between spelling and pronunciation of English vowels more problematic than that of English consonants?
2. Which of the English phonemic features are more difficult for Iranian EFL learners?

II. LITERATURE REVIEW

Conducting studies on English pronunciation have recently received so much attention from researchers. The most relevant study in this area was conducted by Awad (2010) in the Hebron University in Palestine. In his study, he divided Arab pronunciation errors into different subcategories including multiplefunctionality, doubling consonants, silent letters, morphological ending, highly unpredictable spelling of words, syllabic nasals and liquids, and failure to recognize the schwa sound and investigated the effect of English orthography on their pronunciation. The result of his study suggested that inconsistency between graphemes and phonemes did trigger errors in pronunciation. He also concluded that some teaching techniques such as spelling pronunciations might have contributed to this problem.

Basseti (2006), after providing some evidence of the effect of orthography on literate native speakers and also on second language learners, concluded that orthography of a language did have an impact on literate native speakers' phonological awareness but did not contribute any changes to their pronunciation while in case of second language learners, the orthography of the target language influenced their phonological awareness as well as their pronunciation.

In one study, conducted in EFL context of Iran, DadkhahTehrani (2010) divided the Iranian EFL learners' intralingual pronunciation errors into six distinct categories including false analogy, unique goofs, silent letters, rule ignorance, vowel elision and spelling pronunciation. According to his massive study, spelling pronunciation is the most problematic source of errors for Iranian EFL learners. Then, he concluded that several tasks must be included in EFL materials to improve learners' awareness of spelling pronunciation rules and errors.

By conducting a contrastive study, Seddighi (2010) concluded that there are two main sources for pronunciation problems of Persian speaking EFL learners; first the difference between phonetic and phonological features of the two languages and second the interference of Persian. For example, she found that the vowel /ə/, which is absent in Persian pronunciation, is problematic for all three levels of beginners, intermediate and advanced learners. Also, most of her subjects tended to insert vowel /e/ between *p* and *r* in the word *practice*. She concluded this error might have been due to the differences between English and Persian syllable structures in which no onset consonants cluster is allowed. Almost the same finding was recorded by Yiing (2011), who investigated the pronunciation errors of six Chinese learners. According to the findings of his study, most of the errors of his subjects came from the substitution of an English sound with one of the similar mother tongue sounds due to the fact that some English sounds do not exist in Mandarin Chinese.

III. METHODOLOGY

A. Participants and Materials

The participants were 60 EFL learners from three different universities in Iran including Shahrekord University, Shiraz University and University of Mazandaran. They were 42 females and 18 males, aged 19-25, majoring in English translation. They were all freshmen and had passed the phonetics course in their universities.

In order to test the participants' pronunciation, the reading aloud technique was chosen in which the participants were asked to read aloud some discrete words and sentences presented to them on a page. According to Gibson (2008) reading aloud is a useful diagnostic tool, by the help of which the teachers can assess the learners' pronunciation.

In order to choose the words, a survey had been done on the word list chosen by other researchers (e.g., Arab Moghadam & Senechal, 2001; Ehri & Sofer, 2002; Fender, 2008; Labov, 1966), and a number of approximately 100 words representing inconsistency between vowels and consonants were selected. Ten sample learners were asked to read aloud the words on the paper and check all the words that they had never seen before. All the unfamiliar words were omitted from the list, for example, the silent *p* in the word *corpsis* believed to be problematic. In fact none of the sample learners pronounced this word correctly, but since it was not a common word, it was omitted. The sample learners' pronunciation were transcribed and analyzed by the researchers. In case the researchers noticed that the mispronunciation of a word might have some other sources rather than the English spelling, that word was omitted in this stage. For example, pronouncing *mountain* as *[mauntein] may result from the fact that pronouncing syllabic *n* is difficult for Iranian learners. Although, spelling of the *mountain* is problematic, we cannot be sure about the source of the error. So, such words were omitted. After, piloting all the words, 40 words were selected and contextualized in simple meaningful sentences (see Appendix A). Twenty of these words were used to identify vowel mispronunciation, and the other 20 for consonants. The classical research method was based on the World List Style adopted by so many researchers of the field (e.g., Arab Moghadam & Senechal, 2001; Ehri & Sofer, 2002; Fender, 2008; Labov, 1966). In the classical research method, the pronunciation test includes reading aloud the discrete words. However some modern tool was based on providing the learners with contextualized words (Labov, 1966). So, in this study the chosen words were all contextualized in some meaningful sentences.

After selecting the words and contextualizing them in sentences, they were printed and presented to the participants in a silent room in which all the barriers, which could affect the participants' concentration, were already removed. The participants were asked to read aloud the sentences at a normal speed. Their voices were recorded by a computer program and were later transcribed by two raters. Both raters were completely familiar with phonetic symbols and the correct pronunciation of the words. It should be noted that the participants' pronunciation were analyzed only based on the 40 selected words, other words in the sentences were not analyzed.

What is more, each word was assessed only based on one sound segment. For example, in the word *angel*, the pronunciation of *g* was under consideration and mispronouncing the initial vowel in this word was not considered in the score the rater gave to each participants. In order to ensure the raters’ consistency in rating the pronunciation of the participants, two trained raters were asked to score the data. Table 1 shows the value of Kappa Measure of Agreement for the two raters scoring the pronunciation of the respondents:

Table 1: *Inter-rater Reliability*

	Value	Asymp. Std. Error	Approx. T	Approx. Sig.
Measure of Agreement Kappa	.928	.035	27.158	.000
N of Valid Cases	60			

The results demonstrate that the Kappa Measure of Agreement value was 0.928 and significant at 0.05 for pronunciation inter-rater reliability.

IV. RESULTS

In order to investigate the first research question, paired samples *t*test was run on the scores of the learners on the vowels and consonants.

Table 2: *Paired Sample Statistics for Vowels and consonants*

		Mean	N	SD	SDError Mean
Pair 1	Consonants	12.27	60	4.317	.557
	Vowels	10.15	60	3.602	.465

Table 3: *Paired Sample Test for the vowel and consonants scores*

	Paired Differences					<i>t</i>	<i>df</i>	Sig. (2-tailed)	
	Mean	SD	SD Error Mean	95% Confidence Interval of the Difference					
				Lower	Upper				
Pair 1	Consonants Vowels	2.117	1.795	.232	1.653	2.580	9.132	59	.000

As, it can be seen in Tables 2 and 3, there are significant differences between the participants' scores on vowels ($M= 10.15$, $SD= 3.602$) and their scores on consonants ($M= 12.27$, $SD= 4.317$), $t(59) = 9.132$, $p < .005$ (two-tailed). It showed that the participants have more problems with pronouncing English vowels than English consonants. This result is in line with the fact that in English orthography, there are twenty consonants making twenty four sounds, while there are five vowels making twenty sounds, which makes the English vowels more problematic for the learners (Kelly, 2007). Johnson (2001) also described the spelling of English vowels more problematic by stating that "a large variety of vowel sound and spelling patterns in words may seem downright capricious" (p. 372). The result of Bell (2008) also confirmed the result of this study in which he introduced eight salient factors resulting in difficulty in pronouncing English words, six of which contributed to the English vowels. Also, Jones (1996) believed that most English consonants show a direct grapheme-phoneme relationship, and irregularity in spelling and pronunciation is obvious in the English vowels, and this may be a cause of problem for a reader.

In order to investigate the second research question, the percentage of each word mispronounced by the participants was calculated (see Appendix B). The most important findings of this part were summarized in the following paragraphs.

The word *hidden* is mispronounced by 10% of the participants. The assumption was that due to the differences in pronunciation of the words *hide* and *hidden*, the participants over an overgeneralization process may tend to pronounce the word *hidden* as /haɪdn/. Only 10% of the participants committed this error, though. The word *women* was mispronounced by 25% of the participants. The assumption was that the participants overgeneralized the pronunciation of the word *woman* to the word *women*. Similarly, the word *written*, which has a different pronunciation from the word *write*, only causes problems for 3% of the participants.

The word *height* is among the many words containing the problematic combination of letters of *ei*. Most of the words containing *ei* sound as /e/. 42% of the participants pronounce height as *[heɪt] over the process of overgeneralization.

Two words containing *oo* were in the list, both of which sound /ʌ/. It was assumed that having so many words such as *door*, *gloom*, *floor* in which *oo* pronounce as /ʊ/ or /u:/ might have misled the participants to pronounce the *oo* in *blood* and *flood* incorrectly. In this study, *blood* mispronounced by 21% of the participants and *flood* mispronounced by 28%.

There were three words in the list containing *mine*, the assumption was that the pronunciation of the word *mine* would lead the participants to pronounce the words containing mine in most of which *mine* pronounces as /mɪn/, as *[maɪn]. The word *determine* was more problematic for the participants by error percentage of 42, while the word *examine* only hindered the correct pronunciation of 14% of the participants.

The most interesting thing found in this study was that, although according to the analysis of the first research question vowels were more problematic for the participants, the highest percentage of errors was found in the silent consonants. None of the participants pronounced the word *receipt* correctly. Also, 85% of the participants pronounced the silent *t* in the word *fasten*. Surprisingly, none of the participants mispronounced the word *listen*, maybe due to the fact that it is a very common word in L2 classrooms. Despite the fact that all of them recognized the silent *t* in the word *listen*, most of them were not able to over-generalize this rule to the word *fasten*. In all, there were nine silent consonants in the selected words; the average of the percentages of participants' mispronunciation in all silent consonants was 41%.

In the selected words list, there were four words containing *ea*. The result showed the tendency of participants to pronounce *ea* as /i:/. Consequently, the participants had fewer problems with the word *heat* in which the pronunciation of *ea* is in line with the participants' tendency. Although the word *heart* had the strangest pronunciation, it was less problematic than the two other words *break* and *deaf* which had been mispronounced by 46% and 75% of the participants.

The next problematic spelling was *ch*. There were three words containing *ch* in the test. *Chef* and *choir* mispronounced by 71% and 75% of the participants, respectively. But the word *chemical* was not problematic for any of the participants. Overgeneralization of the pronunciation *ch* in the words such as *chair*, *chest*, *cheese* can explain the participants' errors in their pronunciation of *chef* and *chair*. But, why the participants did not transfer this overgeneralization to the word *chemical* is an unanswered question in this study.

Regarding letter *g*, the percentages of the errors varied among the four selected words. Letter *g* in the word *strange* hindered none of the participants' pronunciations; maybe because of being so common. The word *giant*, surprisingly, mispronounced only by 7 % of the participants. The assumption was that this word would be more problematic. Two similar words *angle* and *angel* mislead 46% and 67% of the participants. Of course, 32% of the participants pronounced the letter *g* in these two words interchangeably.

Regarding the two words *says* and *said*, it was assumed that the pronunciation of the word *say* can lead the participants to mispronouncing these two words as /seɪz/ and /seɪd/, respectively. 44% of the participants mispronounced the word *says* and 33 % of the participants had this problem with word *said*.

V. CONCLUSION

The findings of many researchers showed that the English orthography influences the learners' pronunciation (e.g., Awad, 2010; Basseti, 2006; DadkhahTehrani, 2010). This study also reaffirmed this fact by finding so many errors learners had regarding reading aloud some problematic words which show fewer consistency between vowels and consonants. So, it is encouraged for the L2 teachers, practitioners and syllabus designers and materials developers to take this fact into consideration and help L2 learners to overcome the phonetic and phonological problems and improve their awareness of their mistakes and consequently their pronunciation.

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APPENDIX A

PRONUNCIATION TEST

1. The more written data you have, and the closer the nature of that data is to the project you are proposing, the better.
2. The key of the door was hidden somewhere near the window.
3. She is the same height as her sister.
4. The heavy rain has caused floods in many parts of the country.
5. These chemical may increase blood pressure and may cause some heart trouble.
6. The microwave oven could heat food.
7. That chef baked a giant cake.
8. He had no doubt that there was some strange scent in the room.
9. It is not easy to fasten a lamb in the cage.
10. They examine the way of living in that island.
11. Those women browse the shelves for something interesting to read.
12. Those jewelry were so precious.
13. They tried to determine the cause of the rise in prices.
14. The teacher says, "Please, count from 1 to 10."
15. The little boy said "I didn't break the window."
16. The photo was taken from an unusual angle.
17. The scene of the accident was amazing for me because everyone tried to keep calm.
18. When she sings in the choir, everyone listens carefully, and stands as a mark of honor to her.
19. After buying a box of sugar, he asked for receipt.
20. It was hard to believe that the angel girl was deaf.

APPENDIX B**Selected Words Correct Pronunciation, Percentage of Errors, And Mispronunciation**

Words	Pronunciation	Letter	Pronunciation of the Letter	Percentage of Error	Mispronunciation of the Letter	Similar Words
hidden	/hɪdn/	i	/ɪ/	10%	*[aɪ]	hide, hiding
women	/wɪmɪn/	o	/ɪ/	25%	*[u:]	woman
written	/rɪtɪn/	i	/ɪ/	3%	*[aɪ]	write, writing
height	/haɪt/	eigh	/aɪ/	42%	*[eɪ]	eight, weight
blood	/blʌd/	oo	/ʌ/	21%	*[u:]	gloom, bloom, floor,
flood	/flʌd/	oo	/ʌ/	28%	*[u:]	gloom, bloom, floor
examine	/ɪgzæmɪn/	i	/ɪ/	14%	*[aɪ]	mine
determine	/dɪtɜːrɪn/	i	/ɪ/	42%	*[aɪ]	mine,
heart	/hɑːrt/	ea	/ɑː/	17%	*[e]	heat, hear, heard
heat	/hi:t/	ea	/i:/	3%	*[e]	heart, hear, heard
break	/breɪk/	ea	/eɪ/	46%	*[i:]	steak, speak, seat, search
deaf	/def/	ea	/e/	75%	*[i:]	dead, dean, tea,
oven	/ʌvn/	o	/ʌ/	60%	*[ou]	over, only
says	/sez/	ay	/e/	44%	*[eɪ]	say
said	/sed/	ai	/e/	35%	*[eɪ]	paid, laid, plaid, gain
raise	/reɪz/	ai	/eɪ/	17%	*[aɪ]	rise,
key	/ki:/	ey	/i:/	32%	*[eɪ]	grey, obey, survey
count	/kaunt/	ou	/aʊ/	42%	*[ʌ]	country,

country	/kʌntri/	ou	/ʌ/	28%	*[aʊ]	count, account
browse	/braʊz/	ow	/aʊ/	89%	*[u:]	known, low, blow
choir	/kwaɪə/	ch	/k/	75%	*[tʃ]	chair, chief
chemical	/kemɪkl/	ch	/K/	0%	-	chair, chief
chef	/ʃef/	ch	/ʃ/	71%	*[tʃ]	chair, chief,
precious	/preʃəs/	c	/ʃ/	1%	*[k] & *[s]	cat, card
giant	/dʒaɪənt/	g	/dʒ/	7%	*[g]	goat, guide, goal
angle	/aŋɡl/	g	/ŋɡ/	46%	*[dʒ]	eligible, angel
angel	/eɪndʒl/	g	/dʒ/	67%	*[g]	angle, goal
strange	/streɪndʒ/	g	/dʒ/	0%	-	strong
honor	/a:nər/	h	silent	17%	*[h]	honey, hero,
calm	/kɑ:m/	l	Silent	32%	*[l]	realm, palm, talk
listen	/lɪsn/	t	Silent	0%	-	fasten, master
fasten	/fæsn/	t	Silent	67%	*[t]	master, fast
lamb	/læm/	b	Silent	85%	*[b]	lamp
receipt	/rsɪ:t/	p	Silent	100%	*[p]	
island	/æɪlənd/	s	Silent	14%	*[s]	Islam, slang
doubt	/daʊt/	b	silent	35%	*[b]	
strange	/streɪndʒ/	g	/dʒ/	0%	-	strong
scent	/sent/	c	/s/	35%	*[sk]	since, scan,
scene	/si:n/	c	/s/	25%	*[sk]	scan, succeed
sugar	/ʃʊɡər/	s	/ʃ/	0%	*[s]	soup, soul
close (adj)	/kloʊs/	s	/s/	43%	*[z]	close (v)