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Reducing Pronunciation Errors of vowels through the Teaching of Irregularities in English spelling in a Sudanese foreign language class

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Abstract:

This study attempts to reduce pronunciation errors of English vowels caused by spelling irregularities through the teaching of spelling irregularities in Sudanese high secondary schools. The study aims to recognize vowel pronunciation errors resulting from the absence of a letter-to-sound relationship and examine the effect of teaching in removing these errors. The study used an experimental method, and two groups, experimental and control groups, were involved. The experimental group took the test before and after training; however, the control group had the same tests but without receiving any training. Students were asked to pronounce sets of English vowel lists embedded in words. The results revealed that students have a very high percentage of vowel pronunciation errors in the pretests compared to the percentage of vowel pronunciation errors in the posttests. It is likely that students benefited from the training on letter-to-sound correspondence, which developed their English pronunciation abilities. Interestingly, the results of the control group show a high percentage of pronunciation errors in both the pretest and posttests, with trivial differences between the scores of the students in the two tests. The results reveal frequent confusion errors with cluster vowels representing a single sound and mute letters. These pronunciation errors result from complex letter-to-sound relationships in English, which is linguistically far away from the spelling system of the student's L1 (Arabic). Interestingly, students make hardly any errors when pronouncing /e/ in HD words. This is probably because they have developed knowledge of short vowel /e/ in hvd words. The study recommends more practice activities in the English pronunciation of vowels. Practice should focus on teaching students to learn vowel pronunciation by linking the shapes and sounds of vowels in isolated words and in connected speech.

Keywords: Irregularities, pronunciation error, correspondence, confusion

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1. Introduction

Teaching English pronunciation in foreign classes helps students to produce intelligible speech. The English spelling system is far more irregular than that of most other languages, including Arabic. The English language has twenty vowel sounds, which are represented by six vowel letters (including y), where there is a complex relationship between the letters and sounds. Learners need to practice the link between vowel letters and their sounds to perform correct pronunciation and avoid making pronunciation errors. Arab students transfer the relationship between the orthography and pronunciation of Arabic to that of English (Al Aassam 2020). In Arabic, each letter corresponds to only one sound, so it is easier to read a written text, whereas in English, there is a difference in the sound system and spelling system (Figuigui 2019). Sudanese students of English face such problems because in Arabic, the vowel system is very simple, so they can read an Arabic word easily without any confusion, but in English, they may pronounce /i/ for /e/ in patterns such as sit/set (Elkhair 2014). English is very different from some languages, like Arabic, with regard to letter-sound relationships, and the textbooks focus more on phonetic information than pronunciation (Ali 2015). Arguably, problems such as these can be attributed to the differences that exist between the orthographical systems of languages. This case applies to the English language, which has its own system of orthography. For example, the English spelling system is far away from many Arabic, French, etc. The English language has twenty vowel sounds for five vowel letters, where there is a complex relationship between the letter and sounds. Learners need to practice the link between vowel letters and their sounds to perform correct pronunciation and avoid making pronunciation errors. Arab students transfer the relationship between the orthography and pronunciation of Arabic to that of English (Al. Aassam2020). In Arabic, each letter illustrates only one sound, so it is easier to read any written text, whereas in English, there is a difference in the sound system and spelling system. (Figuigui 2019). Moreover, other studies have demonstrated that the errors made by speakers of other languages who speak English are systematic rather than random. Most Sudanese English face such problems because in Arabic, the vowel system is very simple, and learners can read an Arabic word easily without any confusion, but in English, they may pronounce /i/ for /e/, for example, /sit/ and /set/ (Hassan 2014). This paper attempts to measure the effect of teaching the irregularities of English spelling on eliminating pronunciation errors in Sudanese learners of English. It seeks intuitions in teaching this area of the English language, which forms a problem for our learners.

2. Literature review

All around the world, people long to learn and speak different languages to communicate with each other and to exchange ideas and experiences. In this context, the focus is the English language, which forms a global language of communication

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and which is spoken, written, and used widely for different purposes. Also, the focus is on pronunciation issues, which helps speech participants achieve successful interactions. For example, English is used for many formal interactions such as international diplomatic relations, business, science, and technology (Chandra 2018), according to Al. Aassam (2020) states that pronunciation problems in English make it difficult for speech participants to perform intelligible speech. Problems like these are probably due to inconsistency between orthographical and sound systems manifest in English (Figuigui 2019).

Figuigui explained that English spelling influences the pronunciation of words, resulting in serious pronunciation errors. Rao (2018) described English spelling as irregular and does not have the perfect guide for EFL/ESL learners on how to learn the pronunciation of English words. In the Arab region, the complexity of English pronunciation occurs as a result of the orthography system, which represents a challenge for EFL learners. Arab students can easily pronounce Arabic words because there are direct links between letters and their sounds in their L1. However, when students start learning English, they face pronunciation problems due to irregularities in English spelling (Ali 2015). Taking the subject in more depth, Miller (2019) described English homophones night and knight, etc., as a cause that triggers pronunciation problems for learners. Learners cannot learn their pronunciation by looking at their spelling. Miller added that students from orthography backgrounds who have more regular one-to-one correspondences between graphemes and phonemes may have difficulty with many vowel sounds in English. Dheifallah and Radzuwan (2022) explained that learners of a foreign language cannot have implicit knowledge about the orthographic structure of the L2. So, they may not be able to pronounce or spell a word in a foreign language without having explicit knowledge of the particular rule they are using. In contrast, native speakers do not have this type of problem because they learn language systems naturally. Pronunciation problems caused by spelling irregularities are expected to occur with Arab students learning English pronunciation. They produce wrong English pronunciation due to spelling irregularities. Previous research reported that the English language is not phonetic, while the Arabic language is phonetic (Al.Aassam2020). Ambalegin and Arianto (2018) reported that some of the factors leading to the mispronunciation of English vowels relate to educational background, work experience, and language acquisition.

3. Study hypothesis

Teaching students English pronunciation with regard to spelling irregularities helps to remove vowel pronunciation errors.

4. Participants

The participants of this study included students at the secondary school level in Gadarif state in Sudan. There are two groups in the study: experimental and control groups. Both groups included 30 students. Students learned English at primary school

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for seven years and continued learning it for three more years at secondary school. The average age of the participants who participated in this is 17 years. The students were taught the English language by Sudanese teachers; there were no native English teachers at schools.

5. Methods used

The study used an experimental method of data collection. We collected data from students through pretest and posttests broken by experimental and control groups. Importantly, the interval between the pretest and posttest is a month. The experimental and control groups were assumed to be equal in terms of English proficiency and experience at the beginning of the treatment. The treatment consisted of explicit teaching of English letter-to-sound correspondences to the students in the experimental group, while the control group was taught by the routine program. The students performed a reading-aloud task with potentially difficult spelling-to-sound patterns once in the pretest and a month later, after the treatment in the posttest. Pretest and posttest items were selected to be of equal difficulty.

6. Teaching method and material taught

Teaching method/ strategy: the study adopted an integrated method, which combines pronunciation and spelling. Therefore, they made use of the Sudan Practical Integrated National English (SPINE) textbook series, a hub syllabus that covers these aspects of the English language. The focus of choice covered all lessons of the SPINE textbook series regarding pronunciation and spelling and which link these two aspects. It allows considerable time to teach vowel pronunciation and their corresponding letters in the secondary school curriculum. It includes different lessons throughout its six textbook series (1, 2, 3, 4, 5, and 6).

Content of material taught: The content of the course was intended to provide students with knowledge about correct pronunciation, avoiding pronunciation errors that are assumed to be caused by spelling irregularities. For example, SPINE 4 Unit One Lesson 10 includes lessons on English pronunciation, spine 5 Chapter 2 includes silent letters, and SPINE 6 Chapter One includes homophones. Other lessons about learning letter-to-sound relationships are included in SPINE series 4, 5, and 6. These lessons involved vowels like /oo, oa, aw, ai, i.e., ou and a /. On the other hand, the textbook also included pronunciation and spelling practices, reading aloud, listening, and games/ repeat saying as other games.

Part of the activities of the SPINE included lessons on the learning of letter-to-sound relationships and lessons on how students should pronounce double vowel letters. Moreover, the material included words with vowels like /oo/, as in words book,/ea/ as in sea, /oa/ as in boat, /ee/ as in bee, and ye as in bye where double vowel letters represent a single vowel sound. On the other hand, activities also comprised words with single vowel letters representing different sounds, such as (a) in words like mat, late, any, and day, and how to pronounce them in a variation of

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environments. The content of the method also included material treating homophones, homographs, silent letters, and other irregularities of English spelling.

7. Training description

Training sessions extended for four weeks, where the training targets the learning of correct pronunciation and the deciphering of vowel sounds to their letters. Students were advised to avoid making pronunciation errors. During the training period, the students in the experimental group attended 40 hours of training, broken into five classes per week. Each class continued for 2 hours; one hour was for teaching, and the second hour was for practice. The participants in the experimental group received training/ instructions and practice. On the other hand, as usual, the control group received no training in the pretest or posttest.

8. Testing Procedures

The study involved pretests and posttests broken down by experimental and control groups of students at the secondary school level. In terms of the phonemes, the test items encompassed orthographic the short, long, and diphthong vowels of English in relation to their spelling. Testers asked students to pronounce a word list, including the target vowels. Specifically, the test examined the students' abilities to underline two letters representing one sound as /aw/ in words saw, /ee/ in bee, /oa/ in boat, /eo/ in people, /ea/ in head, /ai/ wait /ay/ in day and /oo/ in book. Words with one vowel letter representing more than one sound, such as /a/ in the words cap, *mat, and van*, were also examined. Students were also asked to pronounce words with a silent letter as in words such as *could, night, write, column*, etc.

- 1. The test included two lists of English vowels embedded in words.
- 2. Importantly, the list of words for the pretest is different from the list for the posttests.
- 3. Five senior English teachers checked the choice of test items' face validity before they distributed them to students.
- 4. Three English language teachers offered to help administer the tests.
- 5. Three testers tested the participants individually in the classroom during the school day.
- 6. Before they provided answers, participants were advised to review the lists of test items for a few seconds.
- 7. After reviewing, testers asked students to pronounce the words in the list.
- 8. To produce correct pronunciation students were also advised to consider the link between English vowel sounds in words to their letters.
- 9. During the test, testers depict down the answers of students as correct/incorrect pronunciation. They follow the model answer provided to them by the researcher (section 9).
- 10. Testers received background about the objectives of the test.

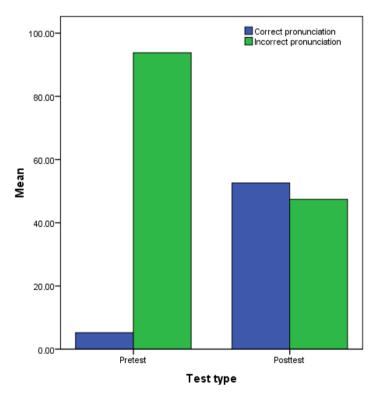
9. Scoring procedures

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For scores distribution, there are two answers correct or incorrect pronunciation. The students may provide correct or incorrect pronunciation. If a student provides the correct pronunciation of the target item presented in the test, he or she gets a full mark (100) and if he/she gives an incorrect pronunciation of words, he/she gets a wrong answer (zero).

10. The Results of Vowel Pronunciation in the Experimental Group

Figure (1) English vowel correct and incorrect pronunciation in the pretest and posttests of 30 Sudanese students – experimental group



As Figure (1) shows, students have high scores (93.78%) of incorrect pronunciations against 5.22 % of the correct pronunciation of the target words in the pretest of English vowels embedded in words. Results reveal that students have higher scores of pronunciation errors. On the other hand, Figure (1) also presents the scores of students in the posttests that students took after training. From the Figure above, it seems clear that students have higher scores in the posttest in relation to correct pronunciation than incorrect pronunciation; the total mean is 52.60% against 47.40%. Readers will find more details about this issue in the tables of confusion

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matrix (1 and 2) below.

Table (1) Confusion matrices comparing the result of phonemic production (responses) in rows with reference phoneme transcriptions against the target spelling in columns (pretest-experimental group). The diagonal line represents the sound the speakers actually produced correctly. Incorrect pronunciation spread around the diagonal line shows all correct cases of pronunciation.

	Vow	el sou	ınd Re	espon	ses –	prete	st/exp	erim	ental g	group		
Target								/1				
spelling	/e ₁ /	/a1/	/ɔ:/	/e/	/e/	/1:/	/ŋ/	/	/əʊ/	/υ/	/υ/	/a1/
I	0	1	0	11	0	0	0	0	0	4	2	0
A	1	0	0	14	1	3	0	1	1	0	0	0
Ai	15	0	0	4	1	1	0	0	0	0	0	0
Aw	2	0	3	14	4	0	0	0	0	0	0	0
Е	1	0	0	17	0	2	0	3	0	0	0	0
Ea	3	0	0	22	7	6	0	3	0	0	0	0
Ee	1	0	0	6	15	8	1	0	0	0	0	0
Ео	6	0	0	5	16	0	1	0	0	0	0	0
Ie	2	0	0	5	1	1	1	2	8	0	0	0
Oa	3	0	0	3	1	12	0	8	2	0	0	0
Oo	16	3	0	1	0	6	0	0	0	0	0	0
Ou	6	8	0	1	0	2	0	0	0	4	0	0
Ye	3	0	0	6	12	1	1	3	0	0	11	0

There are interchangeable substitution errors ranging between 27 % and 36% regarding the pronunciation of /aı/ and /e/ in *isle*, *bed*. Similarly, students make around 73% of confusion errors regarding the pronunciation of /e/ in words like *head*, *bread*, etc. There are also pronunciation errors of /eɪ / in *late and/ɔ:* / *in saw;* these vowels are substituted with the short vowel /e/; the total mean ranges between 16.6% and 46%. Surprisingly, students do not have a problem getting at the correct pronunciation of vowels /e/ and /aı/ 51% in word patterns such as *bed, net, shed, and wet*, and *bye* and *hi*, correspondingly. Moreover, around 50% of the pronunciation of /ı:/ in *people* and in *bee /fee /free* are confused for /e/ in the *head*. Students have pronunciation errors, producing the vowels /və/ in *poor* and/eı/ in *wait*. They

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frequently substitute these vowels with a single vowel,/a/. On the other hand, students make errors in pronouncing the vowel /əo/ in *boat* and /eı/ in the day, substituting them with the double vowel /p /ei/. Serious pronunciation errors are also detected when students try to produce diphthongal vowels. Table (2) provides more detail about the results.

Table (2) Confusion matrices comparing the result of phonemic production (responses) in rows with reference phoneme transcriptions against the target spelling in columns (posttest—experimental group) - The diagonal line represents the sound the speakers actually produced correctly. Incorrect pronunciation spread around the diagonal line shows all correct cases of pronunciation.

	Res	ponse	s postt	est e	xperi	ment	al gro	up					
Target	/e1 /	/a1 /	/au/	/e/	/e/	/ <u>1</u> : /	/ <u>1</u> : /	1	/ <u>1</u> : /	/၁ʊ/	/ʊ/	/ʊ/	/a1 /
A	28	0	0	2	0	0	0	0	0	0	0	0	0
Ai	5	20	0	0	3	0	0	1	0	0	0	0	0
Aw	0	0	20	0	1	0	0	0	0	0	0	2	0
E	2	0	0	28	0	0	0	0	0	0	0	0	0
Ea		0	0	11	19	0	0	0	0	0	0	0	0
Ee	0	0	0	11	0	21	0	1	0	0	0	0	0
Eo	1	0	0	2	4	0	21	0	0	0	0	0	0
Ι	0	0	0	6	0	0	0	24	0	0	0	0	0
Ie	1	3	0	8	1	0	0	6	10	0	0	0	0
Oa	4	0	0	0	0	0	0	0	0	18	0	0	0
Oo	0	0	0	0	0	0	0	0	0	0	24	0	0
Ou	0	0	0	0	0	0	0	0	0	0	0	18	1
Ye	0	0	0	6	0	0	0	3	0	0	0	0	21

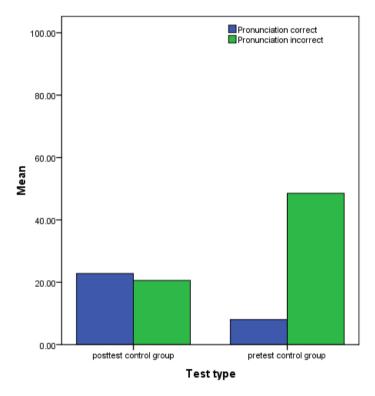
Table (2) shows that students have the correct pronunciation of the vowels /e and a/ words like *bed wet met* and *late /make* (90%), respectively. Similarly, students have high percentages of correct pronunciation in producing the vowels /ea, ee, eo, oa, ou,ye,ay and ai/ in the words; *head*, *bee*, *people*, *boat*, *bye*, *day*, *could and wait* in the posttest; total mean percentage ranges between 60% and 80%. In comparison to the results obtained in the pretest, the students obtained high scores in pronouncing the English vowels

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correctly. Interestingly, although students show high score in producing short vowel /e/ in *bed*, there are irritating confusions of /e/for the long and diphthongs vowels /ie, I, ee, ea/.

11. The Results of Vowel pronunciation in the control group

As Figure (2) English vowel correct and incorrect pronunciation in the pretest and posttests of 30 Sudanese students of the control group



As Figure (2) shows students have high incorrect scores in the pronunciation of the English vowels embedded in word, however they are not many errors fix in the pretest compare to the results of post in the control group. The total percentages of incorrect pronunciation in pretest and posttests of the control group are 48.56% and 20% consecutively. On the other hand, the total percentages of the correct in the pretest and posttests are 8. % and 23%, successively.

Table 3 Confusion matrices comparing the result of phonemic production (responses) in rows with reference phoneme transcriptions against the target spelling in columns (pretest-control group). The diagonal line represents the sound the speakers actually produced correctly. Incorrect pronunciation spread around the

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diagonal line shows all correct cases of pronunciation.

Target	Resp	onse	s – ph	onem	ic pr	oduct	ion							
spelling	/ei/	Ai	Aw	Е	Ea	Ee	to	I	ie	Oa	00	/u/	/u/	/ai/
A	11	0	0	19	0	0	0	0	0	0	0	0	0	0
Ai	5	11	0	7	0	0	0	0	0	0	0	0	0	0
Aw	0	0	10	0	0	1	0	0	8	0	0	6	1	0
Е	10	0	0	20	0	0	0	0	0	0	0	0	0	0
Ea	13	0	0	16	0	1	0	0	0	0	0	0	0	0
Ee	0	0	0	17	0	13	0	0	0	0	0	0	0	0
Eo	0	0	0	6	6	2	5	0	0	10	0	0	0	0
I	3	0	0	6	0	0	0	21	0	0	0	0	0	0
Ie	2	7	0	3	0	0	0	9	8	0	0	0	0	0
Oa	3	0	0	0	0	0	0	0	0	11	6	1	1	0
Oo	0	0	0	0	0	0	0	0	0	24	0	6	0	0
Ou	0	0	0	0	0	0	0	0	0	19	0	8	0	0
Ye	0	5	0	0	0	8	0	0	0	0	0	0	0	7

Table (3) shows that students obtained higher scores in the correct pronunciation of more than 50% in the posttest control pronouncing vowel /a, e, ai, aw, ay, ea, oa/. As the results show, students made pronunciation errors by producing the double vowels (ee, ie, oo, ou, and ye). However, students make more errors in producing the vowels /ea and ee/ correctly (60%). They substituted these vowels with the single vowel (a).

Table .4 Table.3 Confusion matrices comparing the result of phonemic production (responses) in rows with reference phoneme transcriptions against the target spelling in columns (posttest-control group). The diagonal line represents the sound the speakers actually produced correctly. Incorrect pronunciation spread around the diagonal line shows all correct cases of pronunciation.

Target													
spellin	/ei	/ai	/au		Е		/Eo		/Ie	/Oa	О	/u	/Ai
g	/	/	/	Ε	a	ee	/	/ I /	/	/	О	/	/
A	17	0	0	6	0	0	0	0	0	0	0	0	0
Ai	6	10	0	6	0	0	0	2	0	0	0	0	0
Aw	0	0	10	0	0	0	0	0	0	2	0	4	0
				1									
Е	11	0	0	9	0	0	0	0	0	0	0	0	0
Ea	6	0	0	2	7	0	0	0	0	0	0	0	0

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				3									
				1		2							
Ee	0	0	0	0	0	0	0	0	0	0	0	0	0
				1									
Eo	0	0	0	1	0	0	1	0	0	17	0	0	0
								2					
I	0	0	0	7	0	0	0	3	0	0	0	0	0
				1									
Ie	3	0	0	1	0	0	0	8	7	0	0	0	0
Oa	6	0	0	0	0	0	0	0	0	13	0	0	0
Oo	0	0	0	0	0	0	0	0	0	23	7	0	0
Ou	0	0	0	0	0	0	0	0	0	17	0	3	0
Ye	0	0	0	0	0	0	0	0	0	0	0	0	14

Table (4) shows that the students have high correct scores to match the vowel letters /ee/, /ea, /i /eo /au/, /e/ oa/ ye) with their sounds correctly. Students also have low scores when they pronounce the double vowels /ea, eo, ie, and oo/; scores range between 10 and 23%. However, they have fewer problems getting the correct pronunciation of single vowels /e/ and /ai/ and /i/ sounds; total mean correct scores range (from 65 to 76%). On the other hand, students obtained low scores for pronouncing the vowel (ou) correctly. Moreover, the vowels /I, ee, ei, eo/ are frequently by the short vowel /e/.

12. Computation of Correlation coefficient

There is statistically a significant negative correlation coefficient between the performance of students in the pretest and posttests of the experimental group (r=1.000; p<0.01), on the one hand, and between the performance of students in the pretest and posttests of the control group from another hand (r=-1.000; p<0.01). These results suggest that when students produce lower scores in the pretests of both the control and experimental groups, they produce higher scores in the posttests.

13. Link between mean and SD values

Table 5 Mean and standard deviation for eight conditions broken by factors of experimental and control groups and test type

				95%	Confidence
				Interval	
Dependent				Lower	Upper
Variable	test type	Mean	SD.	Bound	Bound
Pronunciation	posttest control	14.	.2		
correct	Posttest	53			
	experimental	33	.5		•

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	Pretest control	3.	.2			
	Pretest	6				
	experimental	0.	.3	•	•	

Table (5) shows a link between the mean values and standard deviations of the experimental and control groups. The data in the table shows that there are large SD values for incorrect responses which range between .4 to .9 points. On the other hand, there are small SD values for correct responses which range between .2 and .5 points. Larger SD values imply that the points/scores of students are far away from the mean; meanwhile, smaller SD values imply the opposite. Interestingly, the larger SD values are mostly connected with incorrect scores in the pretests, which suggests that students followed a chance strategy pronouncing the target vowels. However, when students took the posttests, they developed experience, and so they produced scores that were closer to the mean. The confidence interval is 95%, and the population parameter is between L and U bounds.

The computation of ANOVA (Post hoc test) shows that there is a statistically significant difference found between groups F (5.198) where p-value = (.001); we accept the hypothesis raised by the study.

13. Discussion

Pronunciation errors of words with cluster letter vowels like a field, people, book, oil, day, boat, etc., form the most problematic area of pronunciation. This problem may occur because students do not know how to deal with the pronunciation of double vowel letters embedded in English words. However, the results of the posttests revealed considerably fewer errors in this type of vowel pattern, which probably benefited from the training. The substitution of /ai/ in the isle and also /ei/ in late for the short vowel /e/ can be interpreted as vowel reduction. This pronunciation error of English vowels is expected to occur among Arab learners of English pronunciation. However, students do not have a problem getting at the correct pronunciation of the vowel letter /e/ in words like bed, head, shed, etc. This is probably because they almost developed a command of figuring out the correct pronunciation of this vowel in words of this pattern. But there is indeed a problem when students try to link double letters /ee/ in bee, /eo/ in people, and /ye/ in bye with their matching sounds. They often substitute these vowels with the vowel/ea/. Moreover, students have pronunciation errors when they try to link the letters /oo/ in poor and/ai/ in wait with their sound, substituting a single vowel /a/.On the other hand, students make errors in pronouncing the double letters/oa/ in the boat and /ay/ in the day, substituting them with the double vowel /ei/. From the pretest and experimental results we observed that students fail to link the vowel letters with acceptable sound patterns. The learners also have difficulty pronouncing a single orthographic vowel that can have multiple pronunciations, such as say, wait, read,

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boat, and brain. Moreover, the little knowledge students have of English vowel letters to vowel sounds relationship results in pronunciation errors like these (Miller 2019). Previous studies revealed that sound additions, deletions, and substitutions can be caused by the differences in grapheme-to-phoneme correspondences between English and Arabic languages (Bassett 2020). According to (AL.Aassam2020), there is no direct relation between the letters and sounds of the English language when compared with the Arabic language. (Bassett 2020) revealed that vowels produced by Italian speakers of L2 English can be either long or short depending on their spelling of English words. According to Abdelrady and Jahara (2021), the practices helped Arab learners master the pronunciation of vowel sounds. In a similar study, Ali (2015) reported that the vowel pronunciation problems that Saudi university students of English produce are the result of the complex letter-sound relationship of English. On the other hand, the results in the post-test of the experimental group show that students scored high on correct pronunciation of the vowel sounds. This implies that students benefit from the training they received on the orthography and sounds of English vowels.

14. Conclusions

In general, students' pronunciation of English vowels improved after training, probably because training helped students understand how to avoid pronunciation problems caused by orthography interference.

The most probable reason behind the vowel pronunciation errors is lack of awareness of the students to letter to sound correspondence. Phonemic awareness has been increased the students pronunciation ability and spelling of the target sound embedded in the word.

The results reveal that students have a large number of pronunciation errors with double vowel letters representing a single vowel, such as /ee/ in bee, /eo/ in word people,/oo/ in poor, (aw) in saw, (ye) in bye. Similar errors are observed when a single vowel letter represents different vowels; e.g., vowel letter (a) in the mat and late presents a short vowel in the first word and diphthong in the second. Mute sounds such as /e/ in time and take, etc., represent a problem for our students. These errors occur because there are no cases in the Student L1 system.

On the other hand students did not getting any problem producing the vowel /e/ in *head* and *shed*, because they developed knowledge of this vowel pattern in these words.

Some linguistic factors that cause English vowel errors are probably the differences sound and spelling systems between Arabic and English.

15. Recommendations

To overcome their mispronunciation problems due to spelling, the students need consistent practice on the phonemic to grapheme knowledge through repetition, spelling, and imitation.

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Students need to be familiarized with the English pronunciation system and they need to be aware of English words that are not necessarily spelled they are pronounced.

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Appendices (1) (A) List of target words of vowels in pretest

	List of target words of vowels	Item
1	Isle	I
2	Late	A
3	Wait	Ai

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4	Saw	Aw
5	Day	Ay
6	Bed	Е
7	Head	Ea
8	Bee	Ee
9	People	Eo
10	Lie	Ie
11	Field	Ie
12	Boat	Oa
13	Poor	Oo
14	Book	Oo
15	Could	Ou
16	Bye	Ye

Appendix 2 (B) lists vowels in the posttest

FF	List of target words of vowels	item
1	-	I
	Ice	-
2	Made	A
3	Raid	Ai
4	Paw	Aw
5	Lay	Ay
6	Shed	Е
7	Read	Ea
8	Fee	Ee
9	people	Eo
10	Lie	Ie
11	Yield	Ie
12	Coat	Oa
13	Poor	Oo
14	Look	Oo
15	Should	Ou
16	Eye	Ye

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