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PUBLISHING
Sustainable Solutions

REAL

**Review of Education,
Administration and Law**

Journal homepage: <http://real.spcrd.org>

ISSN (Print): 2708-1788

ISSN (Online): 2708-3667

Acoustic Investigation of Back Vowels of Pakistani English

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ARTICLE DETAILS

History:

Accepted 23 Feb 2021

Available Online March 2021

Keywords:

Back vowels, PRAAT, formants, PakE, Asian Englishes, World Englishes

JEL Classification:

P36, I21,

DOI: 10.47067/real.v4i1.110

ABSTRACT

The present research investigates the acoustic features of back vowels of Pakistani English (PakE). The vowels are acoustically analysed to see whether PakE is different from Standard British English (SBE), and whether PakE merges the back vowels like some Asian varieties of English. The study also investigates the total number of back vowels of PakE. The subjects (20 male and 20 female) are selected from among the undergraduate students enrolled in BS English (University of Sargodha) with Punjabi as their mother tongue. Monosyllabic words with /hVd/ context, containing the selected vowels are recorded using a carrier-phrase. For acoustic measurement of the formants (F1-F2) and durational properties, PRAAT has been used. The formant values (F1-F2) are compared with those of SBE to find out similarities and differences. For statistical analysis, ANOVA along with Tukey's HSD test is performed to see whether the results are significant. The results show that PakE has four back vowels, i.e. two long and two short. It does merge /v/ and /ɔ:/ like other varieties of Asian Englishes, but it does not merge the high back vowels, i.e. /u/ and /u:/. So, it can be concluded that PakE is a different variety of English on the basis of the idiosyncratic features of back vowels.

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1. Introduction

Language change is a universal phenomenon whereby languages keep changing continuously and continually. Language scientists hold that historically speaking, all languages are descendants of one language, and that one language, along with many other daughter languages may not exist anymore (Lightfoot, 2006). The change occurs at various linguistic levels i.e. phonological, lexical,

grammatical, etc. Change at any of the levels may cause a change in the language variety, and the English language is no exception. When we look at English, it can be said without any fear of opposition that it has ruled the world during the last century and the rule is still unchallenged. It is spoken in every nook and corner of the world. Due to its global spread, it has gone through several changes at different linguistic levels because of the contact of the two languages (Trudgill, 2004 & 2008), causing the emergence of new varieties of English (Graddol, 1997).

The English language reached the subcontinent with the arrival of traders in the Indian peninsula during the 17th century. It became the language of the official communication during the British rule. The phenomenon of the spread of English in the subcontinent is different in the sense that English had to come in contact with many local languages. The resultant dialects of English are diverse in nature, not only from the British Standard English (SBE) but also from each other, i.e. Indian English, Sri Lankan English, Pakistani English, etc. The development of new varieties of English led to the idea of plurality of English, i.e. World Englishes. The term serves as a cover term for the new varieties of English. It also refers to the various approaches to study English worldwide (Bolton, 2006). In the latter sense, the term is associated with Kachru. The concept of World Englishes has freed the study of English from the study of the native cultures. English is no more the language of the British, but of those who speak it. Consequently, the focus on the investigation of the features of non-native varieties of English is multiplied (Kachru & Smith, 1985).

A variety may be different from other varieties on the basis of various linguistic parameters, phonology being one of them. Languages are mainly used for spoken communication and representation, so they differ phonologically (Joseph, 2004). Even different varieties of the same language may differ significantly on the basis of pronunciation and accent. British English, North American English and Australian English are native varieties but they are recognised as different languages on the basis of their phonological feature.

Phonological differences among languages and dialects may occur due to varying number of phonemes. They may differ on the basis of different realisations of the phonemes (Cruttenden, 2008). Differences in phonological features may be examined in three significant aspects. They may differ in number of phonemes. Secondly, the allophonic variation may cause difference in pronunciation. Thirdly, different phonemes may be used in the articulation of the same word (Barber et al, 2009). Same phenomenon is discussed by Bauer (2002). According to him, phonetic realization, phonemic system, phonotactic distribution and lexical distribution may cause difference in pronunciation patterns. This phenomenon can be observed in native as well as non-native Englishes.

2. Review of Literature

The current study is an investigation into the phonological features of PakE to conclude if it is a different and developing dialect of the larger family of World Englishes and in particular Asian Englishes. PakE is one of the extensively used non-native variety of World Englishes. It is really hard to come up with the idea of a single variety labelled as PakE as there are scores of indigenous languages that influence PakE. Yet several attempts have been made to explore the features of a language that is commonly called as PakE. Mahboob & Ahmar (2004), Mesthrie & Bhatt (2008) and Hickey (2005) have highlighted some of the phonological features of PakE. According to them PakE is rhotic and syllable timed. Owing to mother tongue influence, various consonant clusters are hard to articulate. So, re-syllabification is the solution. /f/ becomes /ph/ under the influence of Pushto language. Like other Asian Englishes, fricatives /θ/ and /ð/ are changed into plosives /t/ and /d/ respectively. PakE follows

spelling patterns to pronounce words. /v/ and /w/ are realised as same phoneme. Aspiration is absent in PakE as it changes the phoneme due to the influence of local languages. According to Rehman (1990), PakE has four sub-varieties, i.e. variety A (Anglicised variety), variety B (acrolect), variety C (mesolect) and variety D (basilect). Working on the addressing, apologising, thanking, and requesting patterns, Farid (2004) concludes that a new variety of English is in the making with much borrowing from the local culture. Loan words and borrowing has become a permanent feature of PakE (Baumgardener, 1990, 1993, Baumgardener et al 1993, Kennedy 1993a, 1993b, Tallat, 2003, 2002, 1993, Bilal, et al 2012). Anwar (2007) exhibits that the phenomenon of code-switching influences PakE at the syntax level i.e. phrase and clause. Mesthrie & Bhatt (2008) described the vowel system of PakE. According to them, there are six short vowels. Mahmood and Farooq (2018) concluded that Punjabi speakers of PakE substitute /ɜ:/ with /ə/. Acoustic properties of in Pakistani English have been reported in Bilal, et al (2011a, 2011b, 2011c, 2011d, Abbasi, et al 2018a). Sheikh (2012) recorded her findings about vowel phonemes of PakE. She concluded that an academic variety of PakE is in the making. Hassan and Imtiaz (2015) did acoustic analysis of low back vowels of PakE to study whether there is any merger. Mahmood & Farooq (2017) have tried to identify diphthongs and triphthongs in PakE through an acoustic investigation. Abbasi, et. al. (2018b) have studied the acoustic properties of vowels of PakE.

3. Research Questions

The current study is an acoustic investigation into the back vowels of PakE. It is different from the previous studies in the sense that it is focussed to find out the number of back vowel phonemes (which is not attempted before) and to see if there is any merger of the back vowels, like other Asian Varieties of English (Kirkpatrick, 2007; Deterding, 2007; Gargesh, 2006; Bautista & Gonzalez, 2006). Praat is used for the analysis. Measuring the formant frequencies of the back vowels of PakE, the research is an attempt to addresses the following specific questions:

- How many back vowels are there in PakE?
- Is there any merger of back vowels like other Asian Englishes?
- Does PakE follow SBE, or is it different in this particular aspect?

4. Methodology

4.1 Participants

The participants were selected after a meticulous process of selection. Twenty male and twenty female undergraduates of BS English Sargodha University were chosen for the research purpose. All the participants were Punjabi speakers, who were fluent in English, with their schooling in the English medium institutions.

4.2 Word-lists

Monosyllabic words containing back vowels, i.e. /ɑ:/, /ɒ/, /ɔ:/, /u/ and /u:/ were selected with /hVd/ context. The words selected for the study were 'hard, hoed, hoard, hood and who'd'. The participants were asked to say each word separately using the carrier phrase 'please say _____ loudly'. /hVd/ context (also called the null context) is reported to have negligible effect on the vowel quality (Steven & House, 1963, as cited in Roeder, 2009). According to Wells (1962), 'The frame /h-d/ is particularly suitable for studies of English vowels, since (i) /h/ has so little influence on following vowels, and (ii) it so happens that a real English word results for nearly every 'pure' vowel in this sequence.' (para 54)

4.3 Recordings

The subjects were provided with the word list and were advised to articulate each word

separately using the carrier phrase. The sound clips were recorded using PRAAT in the noise free environment in the soundproof room of FM Radio of University of Sargodha.

4.4 Procedure

The vowels were isolated from the context to calculate the formant values (F1 & F2). For each of the five back vowels i.e. /ɑ:/, /ɒ/, /ɔ:/, /u/ and /u:/, the number of tokens elicited for analysis amounted to forty (twenty male and twenty female). Formant values were measured using the default settings, i.e. 5000Hz for male voice tokens and 5500Hz for female voice tokens. Formant values for the first two formants were noted and jotted down. The /hVd/ frame puts minimum effect on the vowel quality as there is no stricture on the onset. Resultantly, F1 and F2 were recorded on a point closer to the onset, as onset is the significant point to measure the formants and gives precise values as compared to coda. After completing the process for each token, the average values were calculated separately for male and female vowels. The vowels were placed in a vowel quadrangle on the basis of their formant averages. These values were compared with those of the Standard British English (Cruttenden, 2008) to see if there is any difference in the vowel quality. The duration of the vowels was also calculated to find out long and short vowels. The values were statistically analysed (i.e. ANOVA along with Tukey's HSD test to compare significance at $< P 0.05$) to see if there is significant difference among the formant values.

5. Analysis

5.1 Male articulation

Formant frequencies of male and female speakers differ significantly owing to the sizes of their oral cavities, so the analysis of male and female vowel tokens was done separately to get the adequate results.

5.1.1 /ɑ:/

Like the British vowel, it was realized as long low back vowel phoneme. The averages of F1 and F2 were 525Hz and 1123Hz respectively. The average duration of the vowel was 0.096 seconds. Statistical analysis exhibited that the difference of the formants among speakers is insignificant, i.e. the speakers articulated the vowel showing similar characteristics and following the similar pattern. Comparing these values with their British counter-parts (646Hz & 1155Hz), it was observed that though there is significant difference in the formant frequencies, yet the pattern of articulation is similar, i.e. both the varieties articulated it as long low back vowel (Figure 1).



Figure 1

5.1.2 /ɒ/

This short low back vowel showed similar pattern of realization as compared to the short low back vowel of SBE. The average values of the two formants i.e. F1 & F2 remained 483Hz and 1018Hz. The average duration of the articulation remained .057 seconds. Statistical analysis demonstrated that the variation in the formants i.e. F1 and F2 is insignificant, which exhibits that all the speakers came up with the same style of pronunciation. The analysis also proved that the difference between the formant frequencies of PakE and SBE (558Hz & 1047Hz) remained significant (Figure 2).



Figure 2

5.1.3 /ɔ:/

This vowel was articulated as a short vowel. The statistical analysis showed that the difference of formants of /ɔ:/ and /ɒ/ is insignificant, i.e. the two vowels have been articulated as low back vowels. The average formants for /ɔ:/ remained 461Hz for F1 and 980Hz for F2. The average duration calculated was .063 seconds. Comparing the vowel with its British counter-part (415Hz & 828Hz), it is observed that PakE speakers articulated it as low back vowel, while in SBE the vowel is articulated as mid back vowel (Figure 3). So it may be said with caution that PakE speakers have merged the two back vowel, i.e. /ɔ:/ and /ɒ/.

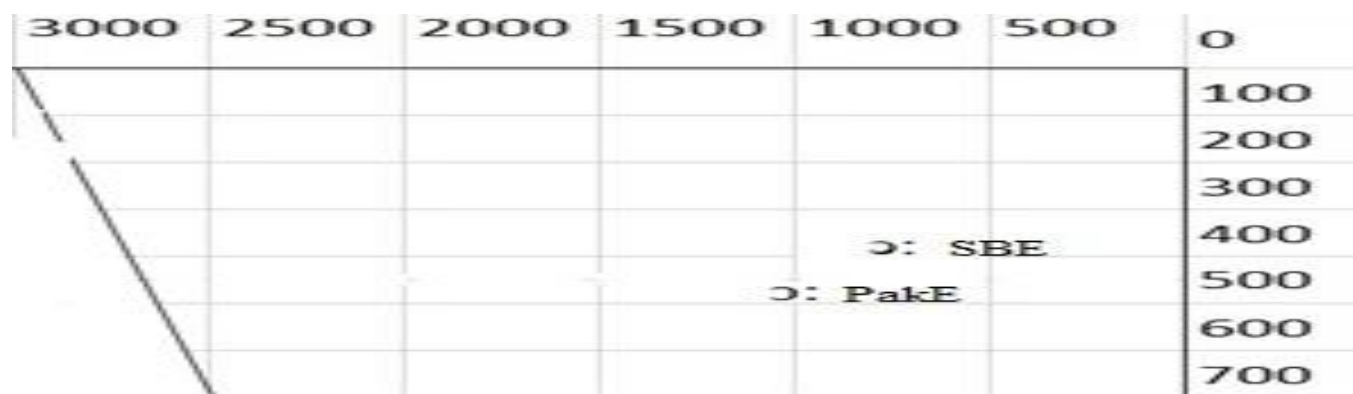


Figure 3

5.1.4 /u/

The vowel was realized as high back vowel. The average duration remained 0.049 seconds. The average formants were 390Hz for F1 and 1073Hz for F2. Statistically, the difference of F1 and F2 among the speakers remained insignificant, i.e. all the speakers came out with a similar pattern of articulation. Comparing it with the vowel in SBE (397Hz & 1173Hz), it was observed that both the varieties have realized it in the same way, i.e. high back vowel (Figure 4).



Figure 4

5.1.5 /u:/

The vowel behaved as high back vowel. The average duration remained .104 seconds, thus it was articulated as long vowel. The average formant frequencies were 353Hz for F1 and 1237Hz for F2. The statistical analysis showed insignificant difference among the formant frequencies as articulated by all the speakers which show that all the speakers articulated the vowel in a similar style. The analysis also proved that that the difference between formant frequencies of PakE and SBE (316Hz and 1191Hz) remained insignificant, both the varieties tend to realize it as high back vowel (Figure 5).

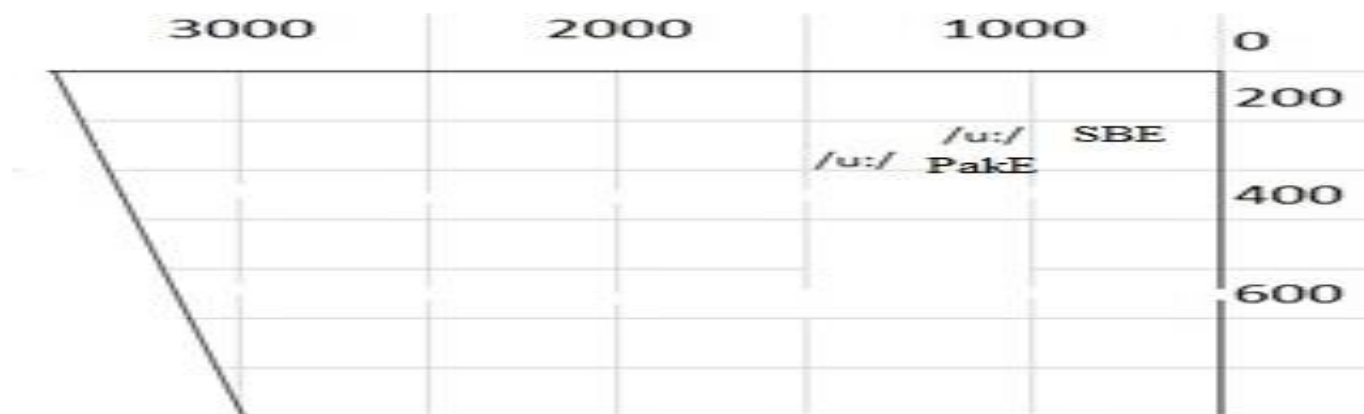
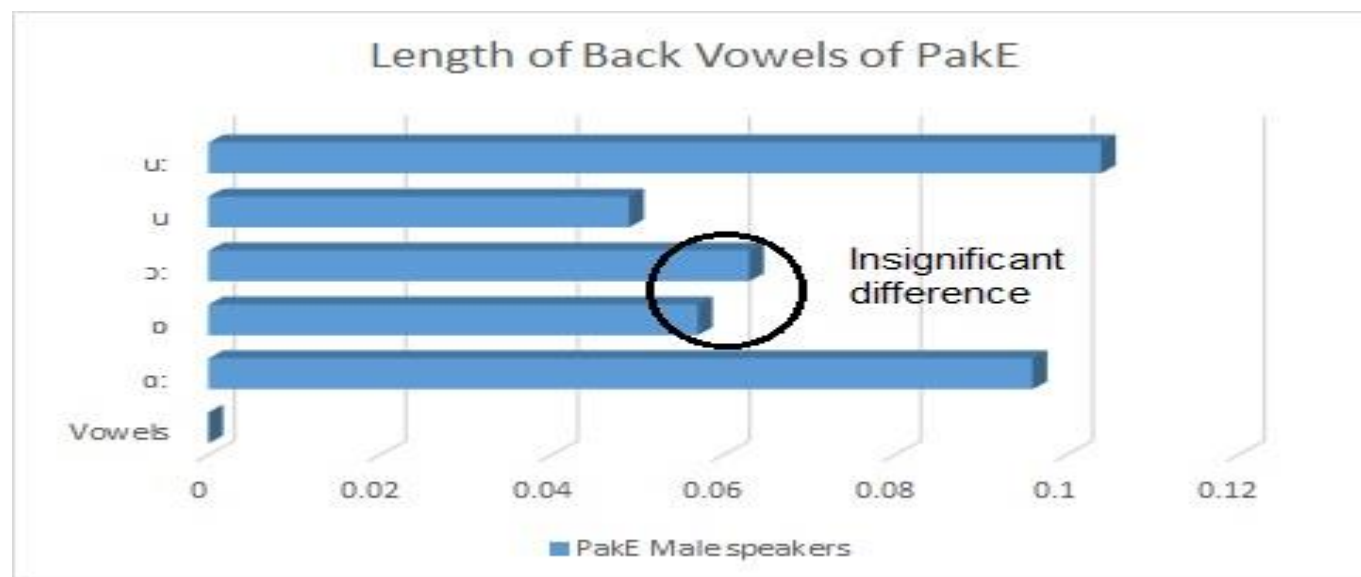
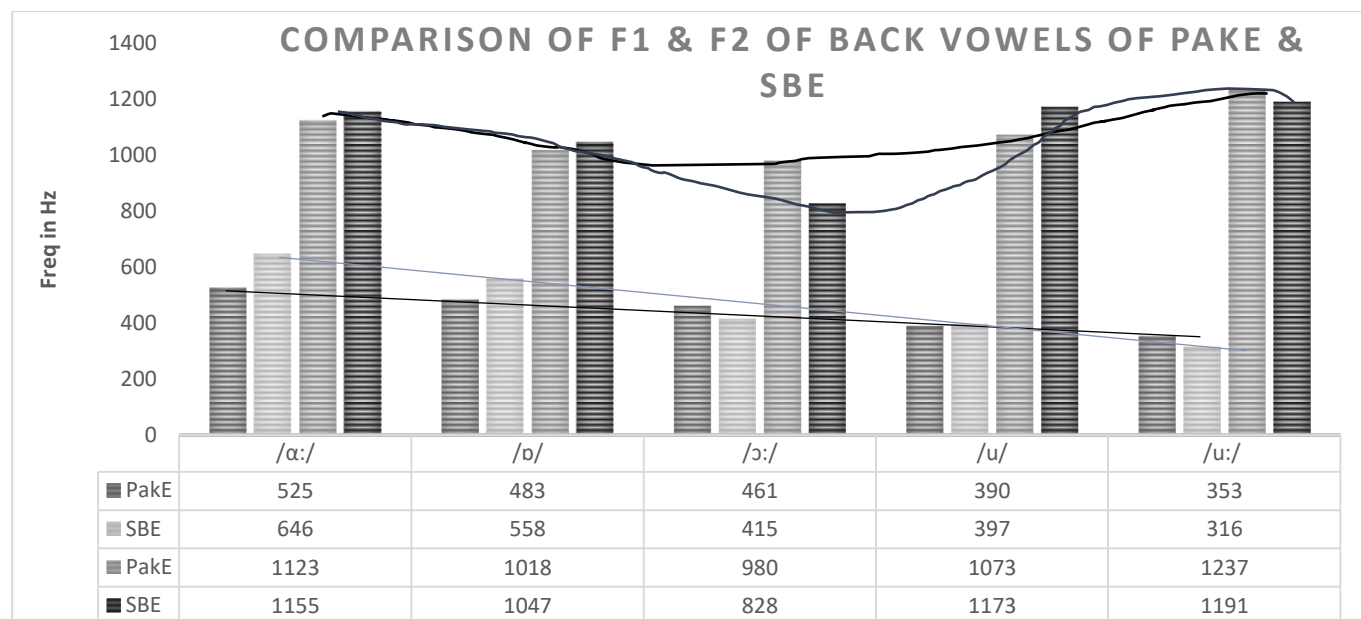


Figure 5

The examination of the back vowels showed that PakE speakers articulated the back vowels with idiosyncratic behavior, i.e. PakE has four back vowels with two long and two short. The formant frequencies of the /ɔ:/ and /ɒ/ are insignificantly different, i.e. they are articulated with the same part of the tongue. The duration of articulation also exhibited insignificant difference, i.e. both are articulated as short vowels. It was revealed that unlike many non-native Asian Englishes, PakE speakers did not merge the high back vowels and maintained the difference. But like many Asian Varieties, PakE showed the tendency of merging the low back and mid back vowels. This feature also makes it a different variety of English from Standard British English, which has five back vowels, including three long and two short. The chart below displays the comparison of duration of back vowels of PakE.



The comparison of formant frequencies of back vowels of PakE and SBE is shown below via graph. It shows that all vowels in PakE behaved almost the same way as their counter-parts in SBE except /ɔ:/, which tends to be lower as compared to /ɔ:/ of SBE, which is a mid-back vowel. This vowel is articulated as low back vowel, unlike SBE where it is pronounced as mid-back vowel. The trend lines also exhibit that there is less difference in the F1 of all the back vowels of PakE as compared to those of SBE. In the same way, the trend lines for F2 show that /ɔ:/ is articulated as low back vowel in PakE, while mid-back in SBE.



5.2 Female articulation

Male and female speakers have different formant frequencies due to their variant oral cavities and windpipes. Female speakers have smaller oral cavities and larger windpipes due to which their formant frequencies tend to be greater as compared to males. The British Standard English also provides separate data for male and female vowels. The analysis proved that the overall pattern of pronunciation remained similar. The female participants articulated all the five back vowels i.e. /ɑ:/,

/ɒ/, /ɔ:/, /u/ and /u:/.

5.2.1 /ɑ:/

The vowel was pronounced as low back vowel with average duration of 0.113 seconds, i.e. as long vowel. The formants were calculated applying the same technique. The average F1 and F2 were 859Hz and 1252Hz. Statistical analysis showed no significant difference in the formant frequencies for speakers, i.e. the pattern of pronouncing the vowel remained same for all the speakers. The comparison of formant frequencies of PakE and SBE (910Hz & 1316Hz) showed a similar pattern of articulation, i.e. both the varieties realized it as long, low back vowel (Figure 6).

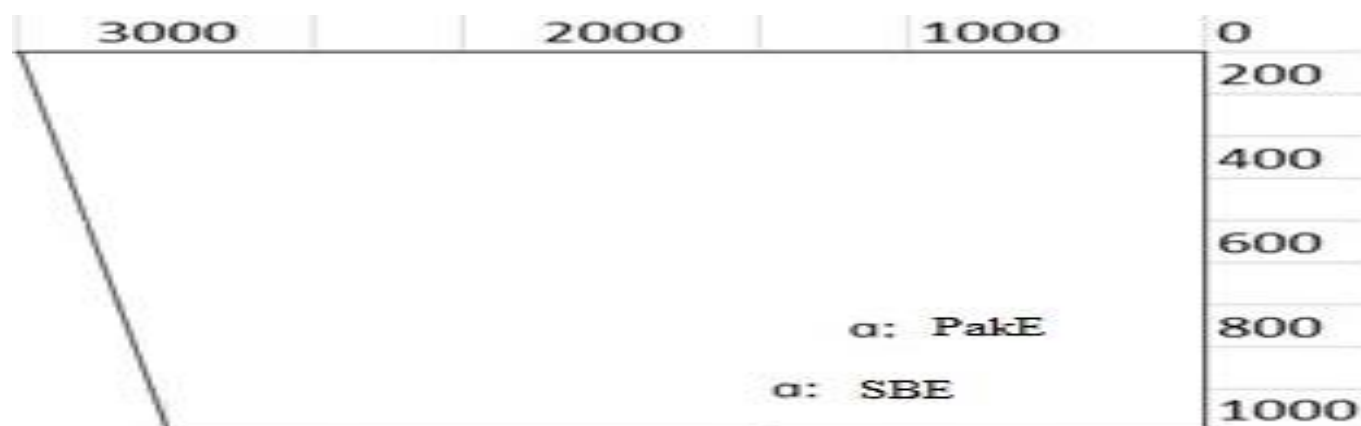


Figure 6

5.2.2. /ɒ/

The average formant frequencies F1 and F2 for this vowel were 543Hz and 1201Hz respectively, exhibiting it as a low back vowel. The formants of the same vowel in SBE are 751Hz for F1 and 1215Hz for F2. PakE speakers articulated it much higher as compared to SBE speakers, i.e. as a mid-back vowel instead of low back vowel. The comparison is shown in Figure 7. The vowel was articulated as short vowel with the average duration of 0.041 seconds. Statistical analysis showed that there is no significant difference among the values of formant frequencies among speakers, which proves that all the speakers came up with a similar pattern of articulation.



Figure 7

5.2.3 /ɔ:/

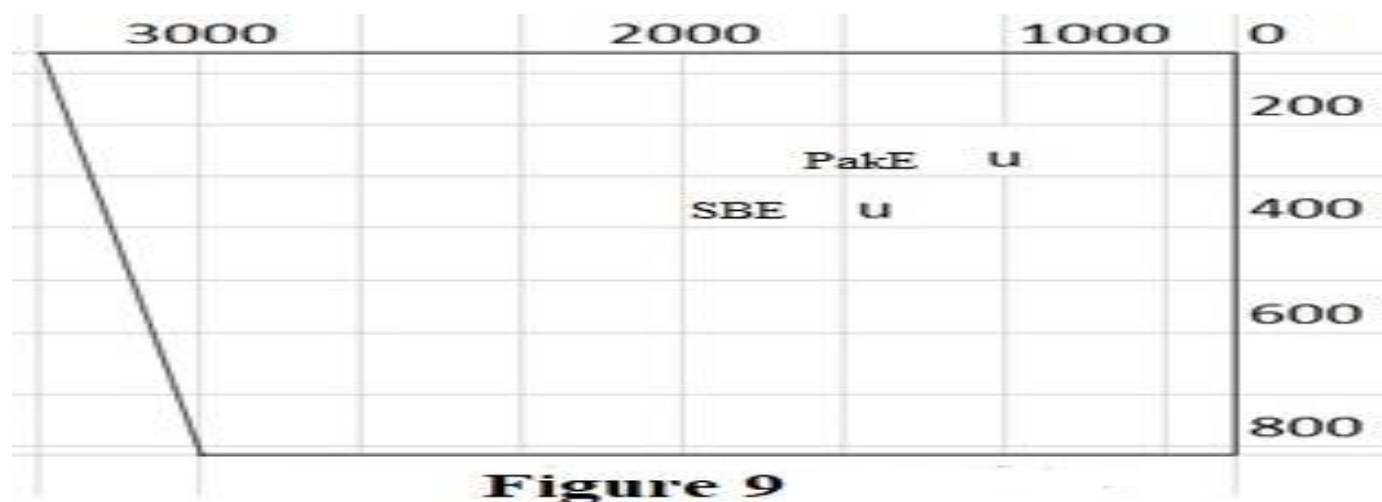
The previous two back vowels were higher and more back as compared to those in SBE. But this vowel behaved a bit different. It was articulated as a lower and more front than SBE. But it was

articulated as mid back vowel, unlike that of male vowel. The average formant frequencies were 507Hz for F1 and 1035Hz for F2, which were 389Hz and 888Hz in SBE. Figure 8 shows the comparison of /ɔ:/ in both the varieties. It was articulated as short vowel with the average duration of 0.49 seconds. The statistical analysis proved that the style of pronouncing the vowel was same for all the participants, as the statistical difference was insignificant.



5.2.4 /u/

Like SBE, the vowel was pronounced as high back vowel. The average duration i.e. 0.043 seconds, showed that it was articulated as short vowel. The mean values calculated for F1 and F2 were 381Hz and 1191Hz, which were 410Hz and 1340Hz for F1 and F2 respectively in SBE. Both PakE speakers and SBE speakers realized this as short high back vowel (Figure 9). The statistical analysis of the formant frequencies of PakE speakers showed that the difference is insignificant, i.e. all the female speakers pronounced it with a similar style.



5.2.5 /u:/

Like SBE, PakE female speakers pronounced it as high back vowel. The average formant frequencies were 333Hz and 1261Hz for F1 and F2 respectively. The average duration of the vowel articulation proved it a long vowel. The variance of the values of both the formants i.e. F1 & F2 remained insignificant, resulting in similar speech pattern. The formant frequencies F1 & F2 of the British English are 328Hz and 1437Hz respectively. Comparing the two varieties, it is observed that

both behaved the same way in the articulation of this vowel. Pakistani female speakers articulated it slightly back as compared to their British English counterparts. The difference is shown in the trapezium below (Figure 10).

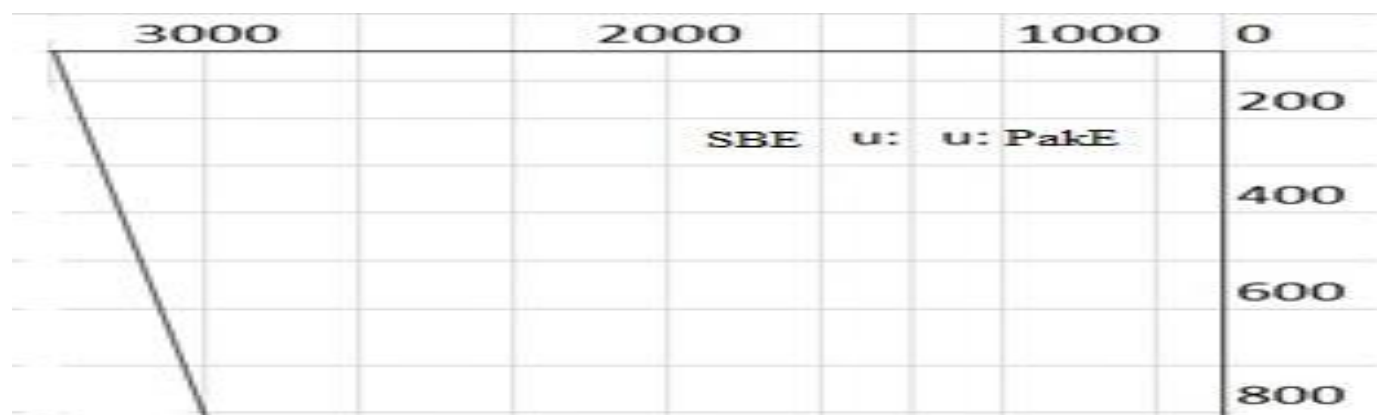
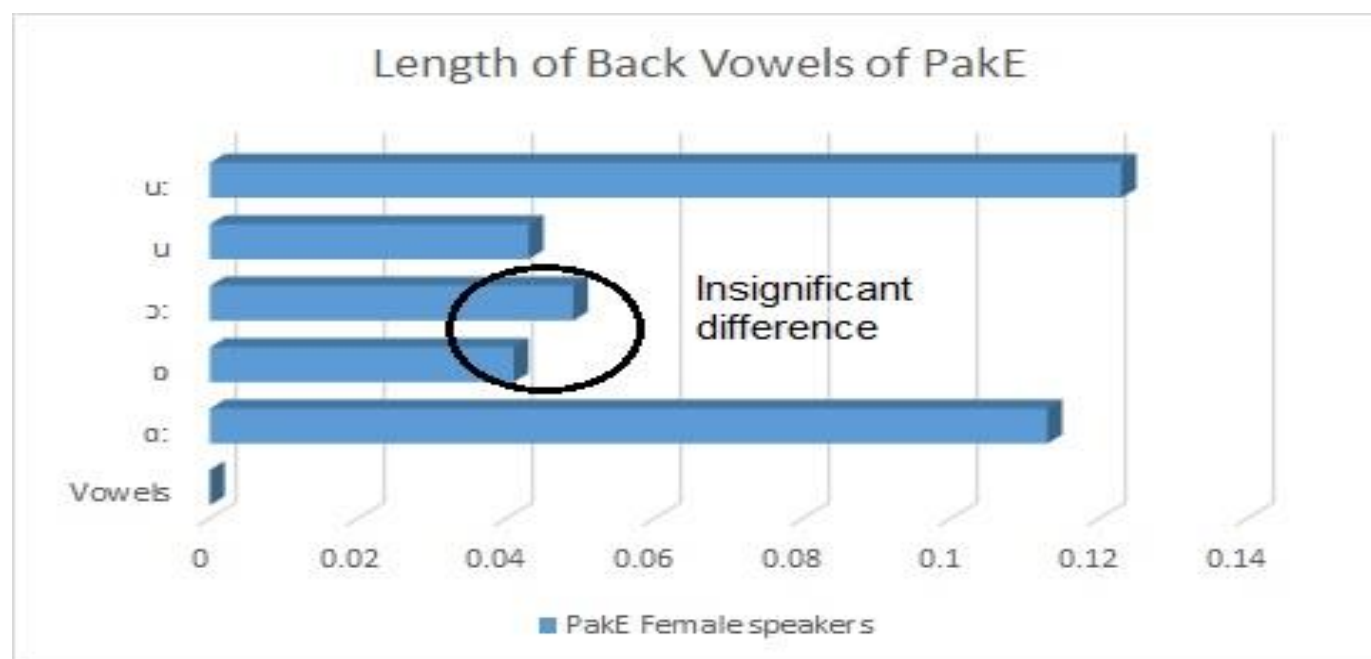


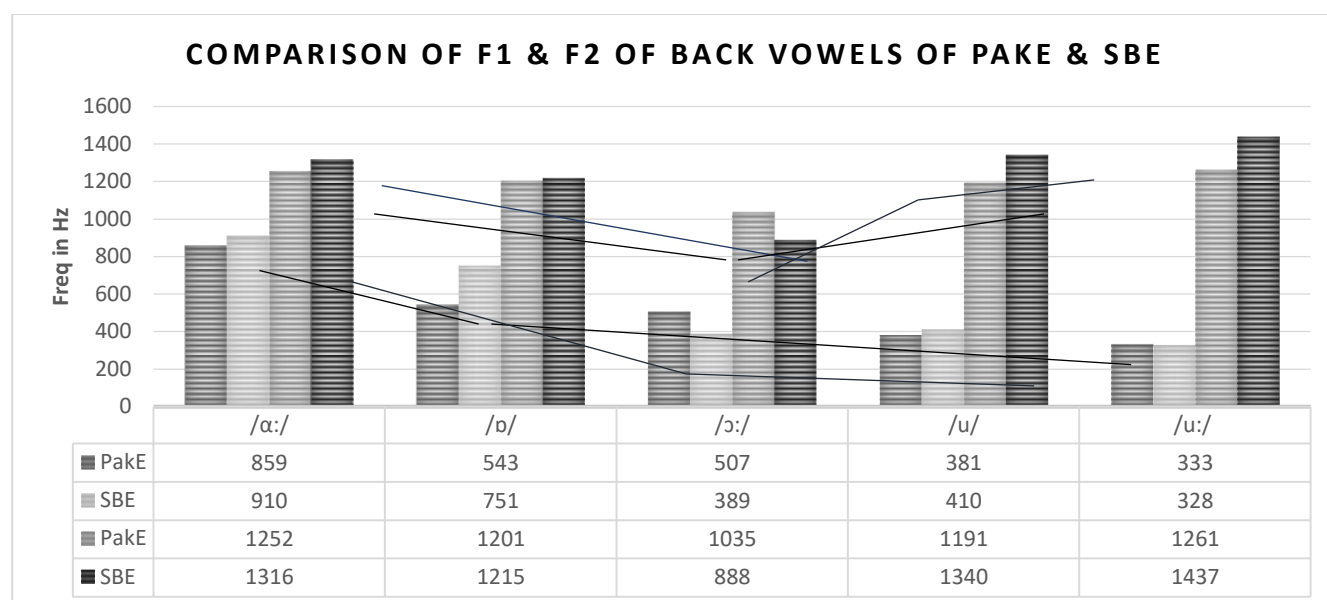
Figure 10

The female speakers of PakE came up with the same pattern as compared to their male counterparts, i.e. they articulated the word-list realizing four back vowels (two long and two short). They did merge the two vowels /ɒ/ and /ɔ:/. But the realization was different in the sense that female speakers merged the two vowels /ɒ/ and /ɔ:/ as mid-back vowels. So the phenomenon of merging the back vowels remains consistent with the female speakers too. But unlike other Asian Englishes, high back vowel were not merged as they were articulated as two different phonemes. The chart below displays the comparison of duration of back vowels of PakE female speakers.



The comparison of formant frequencies of back vowels of female speakers of PakE and those of SBE is shown below via graph. It displays that all back vowels as articulated by female speakers of PakE behaved the similar way as their counter-parts in SBE except /ɒ/ and /ɔ:/. Unlike the male speakers, the female speakers realized /ɔ:/ as mid-back vowel. The trend lines also exhibit that there is less difference in the F1 of all the back vowels of PakE as compared to those of SBE. In the same way, the

trend lines for F2 show that /ɒ/ is articulated as mid-back vowel in PakE, while low-back in SBE.



6. Discussion

6.1 PakE Male Participants

It has been presented in the previous sections that both the varieties i.e. PakE and SBE have different number of back vowels, i.e., SBE has five back vowels including three long and two short while PakE has four back vowels, including two long and two short. Both the varieties demonstrate a similar trend of distinguishing the vowels except /ɒ/ and /ɔ:/. PakE male speakers have shown some idiosyncratic features. The two low back vowels i.e. /ɑ:/ and /ɒ/ were distinguished as long and short vowels by PakE speakers. But the vowels /ɒ/ and /ɔ:/ showed some dissimilarities with those of the SBE. Both the vowels are realised as low-back vowels, unlike SBE that recognises /ɔ:/ as mid-back vowel. PakE speakers did not make the difference of length between the two vowels, unlike SBE speakers. The high back vowels /u/ and /u:/ also show some idiosyncratic features in the sense that the PakE speakers articulated /u/ and /u:/ as two distinct phonemes with respect to their duration like SBE, but the distinction between /u/ and /u:/ is less distinct in terms of formant frequencies than that of SBE. Statistical analysis also proved that there is significant variance among the back vowels of PakE and SBE. The trapezium below shows the difference of vowels of the two varieties (Figure 11).

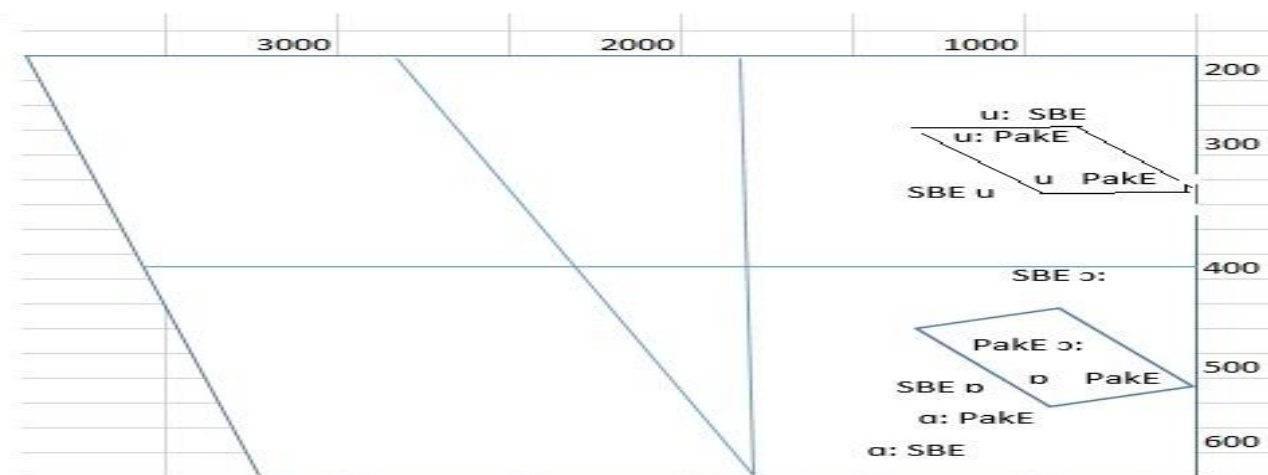


Figure 11

6.2 PakE Female Participants

The female PakE speakers came out with a similar pattern. They articulated the back vowels i.e. /ɑ:/, /ɒ/, /ɔ:/, /u/ and /u:/, showing clear variation of place of articulation except /ɒ/ and /ɔ:/. The distinction between short and long vowels is also evident in /u/ and /u:/ but in case of /ɒ/ and /ɔ:/, it is invisible and insignificant. The female speakers followed the pattern of SBE while articulating /ɑ:/, /u/ and /u:/, but they did merge the two vowels /ɒ/ and /ɔ:/ as mid back vowel. When compared with SBE, it is observed that British female speakers have higher formant frequencies as compared to Pakistani female speakers. /ɒ/ vowel is articulated as short vowel. The distinction between /ɑ:/ and /ɒ/ is clear and significant not only in terms of duration but also in terms of position of articulation. /ɑ:/ is articulated with a more raised tongue as compared to /ɒ/. The third back vowel /ɔ:/ is realised as mid back short vowel. Like their male counterparts, the female speakers did not show a significant difference in the articulation of /ɔ:/ and /ɒ/ in terms of duration and formant frequencies. Both these vowels were articulated as mid-back vowels. The high back vowels showed insignificant difference in their formant frequencies, yet the duration of the articulation make them two different phonemes. Comparison of back vowels of female speakers of PakE and those of SBE is given below (Figure 12).

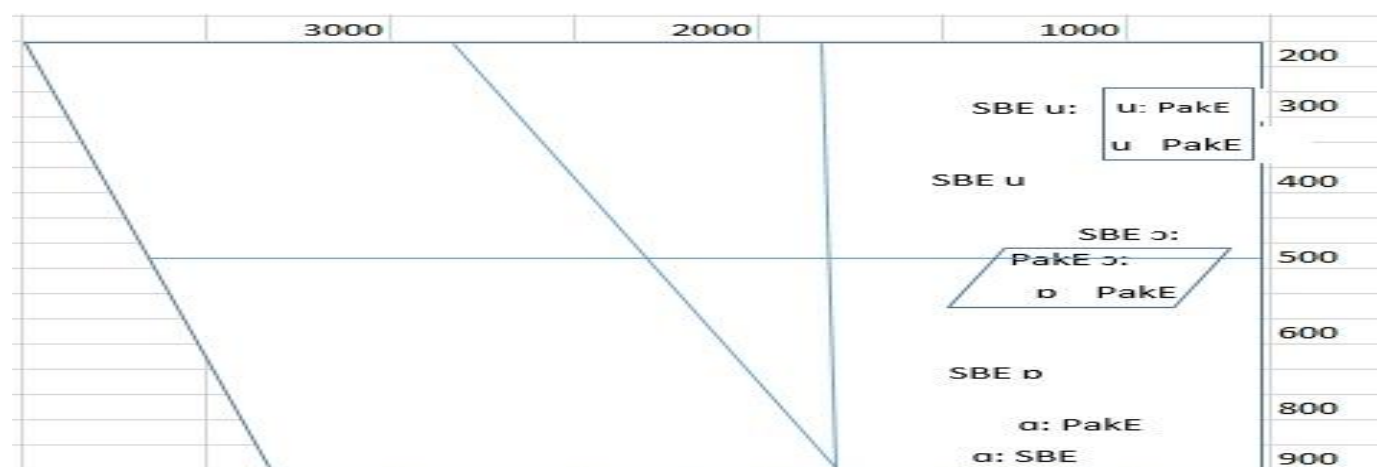


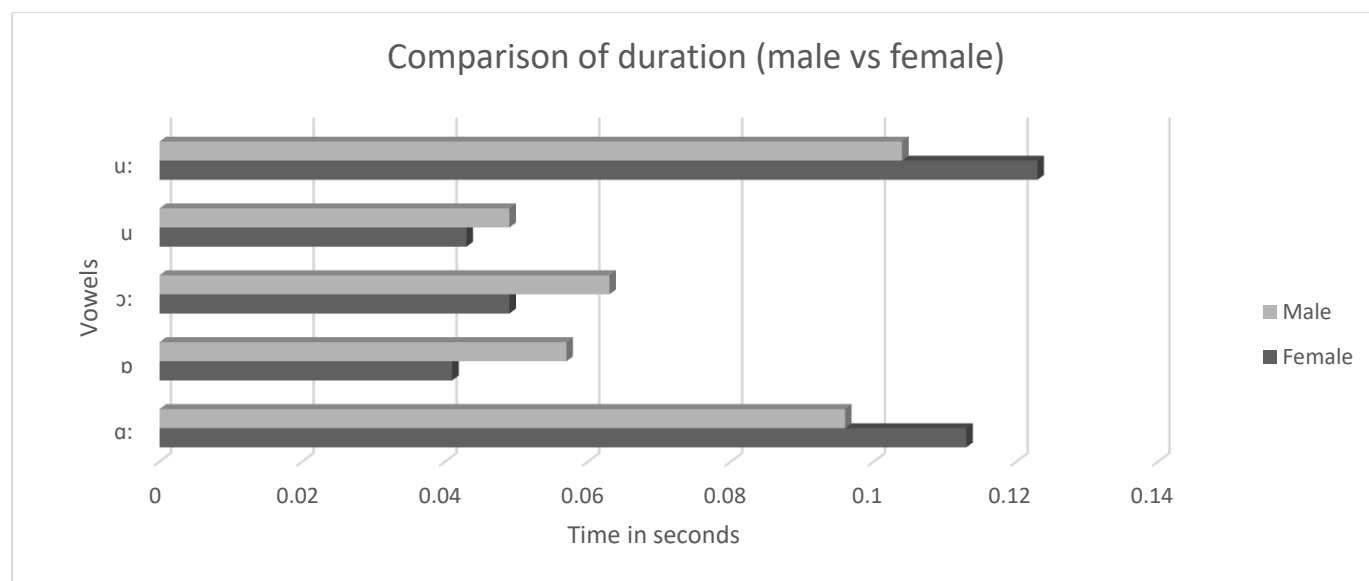
Figure 12

6.3 Comparison of vowels of PakE male and female participants

Comparing the vowels as articulated by PakE male and female subjects, it was observed that the general speech pattern for the articulation of the back vowels i.e. /ɑ:/, /ɒ/, /ɔ:/, /u/ and /u:/ is similar, i.e. both male and female speakers articulated them in the same manner. All the PakE speakers came up with a set of four back vowels instead of five. All the speakers distinguished among high back vowels, i.e. /u/ and /u:/. All the speakers realised /ɑ:/ as long and low back vowel. And all the speakers of PakE merged the two back vowels, i.e. /ɒ/ and /ɔ:/, which appears to be the tendency of Asian Englishes. The merger of the high back vowels, as observed in some other Asian varieties, is not visible in Pakistani variety. The long low back vowel is clearly distinguished not only according to its duration of articulation but also according to the position of the tongue during the articulation, and the part of the tongue involved. But the short back vowel and the long mid-back vowel behaved differently. The difference among their formants is insignificant, that means they are articulated with the same part of the tongue. The difference of duration between the two vowels is also insignificant. In other words, /ɒ/ and /ɔ:/ are merged. The two high back vowels are articulated in the similar manner and they are distinguished not only in duration but also their place of articulation, though the difference is less distinct as compared to SBE.

Though the pattern of articulation of the vowels is same, yet a significant difference between

male and female speakers is visible. PakE male speakers merged the two back vowels /ɒ/ and /ɔ:/ as short low-back vowel while the female speakers of PakE merged them as short mid-back vowel. Another difference observed between PakE male and female speakers is that the female speakers distinguished between the short and long vowels more clearly than male speakers, i.e. the female speakers took relatively more time to pronounce long vowels than male speakers and took relatively less time in articulating the short vowels than male speakers. The comparative duration of the back vowels as articulated by male and female speakers is graphed below.



7. Conclusion

Comparing the PakE speakers with those of the SBE, it is observed that both the varieties have different number of back vowel phonemes. PakE has a set of four back vowels while SBE has a set of five back vowels. It is observed that PakE speakers came up with a distinct way of pronouncing the back vowels. Statistically it is also proved that the difference among the formant values of the two varieties is significant, i.e. both the varieties have different phonemes. The influence of the vowel system of Punjabi language is also visible in both male and female speakers of PakE. Punjabi has four back vowels, and PakE Speakers have shown L1 influence as they merged the back vowels resulting into a set of four back vowels. Kalasnhnik and Fletcher (2007) have described the similar occurrence. Wells (1982, as cited in Kalasnhnik and Fletcher, 2007) has reported the same phenomenon that L1 speakers of Punjabi do not distinguish between the low back vowels. This is because Punjabi has only three back vowels (Bhattia, 2009, as cited in Mahmood et al, 2011).

Asian varieties of English merge /ɒ/ and /ɔ:/ & /u/ and /u:/ (Deterding, 2007, Gargesh, 2006, Gonzalez & Alberca, 1978 as cited in Bautista & Gonzalez, 2006, Kachru 2005, Zuraidah, 2000 as cited in Bautista & Gonzalez, 2006), a feature which is partly visible in PakE, as far as /ɒ/ and /ɔ:/ are concerned, as these two vowels are merged but high back vowels are distinguished as two distinct phonemes. Therefore, it may be said that PakE is different from other Asian Englishes as well as from the British English in this particular aspect.

On the basis of above discussion, certain specific conclusions are drawn. Back vowel phonemes of PakE are different in number as compared to SBE, i.e. four in case of PakE with two long and two short, while five in case of SBE (further classified into three long and two short vowels). Owing to these differences, the variation in pronunciation is bound to occur. Secondly, unlike other Asian Englishes,

there is no merger of high back vowels, but like them, there is merger of low back vowels. On the basis of these differences, it might be said that PakE is a different variety of English, because difference in phonemic realisation or difference in pronunciation causes a variety to change. (Barber, Beal & Shaw, 2009, Cruttenden, 2008, Bauer, 2002).

8. Implications

Pakistani student is facing a dilemma when he comes across different varieties of English in classroom, in text-books, on social media, etc. As a juvenile mind, it may lead him to confusion and chaos which English is correct and which model he should opt for his future endeavours. The current research is an attempt to let him know that though there is no alternative to learning English for making a bright career, yet there is no particular need to follow a native model of English. The research may lead him to the idea of plurality of Englishes, with PakE as one of the non-native varieties of English, ultimately leading him to overcome his confusion.

Another advantage of this research is that it may give the idea to the Pakistani ELT practitioners to 'unfollow' the native standards and to devise a non-native model of language teaching after making further investigation into the local emerging variety.

The current investigation is done on a very limited scale, and it represents only Punjabi speakers of PakE, yet it opens up the vistas to move forward in this area and invites and entices the researchers to explore various features of PakE including phonemic inventory, stress and intonation patterns, etc. with the ultimate objective of the codification of PakE.

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