AN ACOUSTIC STUDY OF DIPHTHONGS IN PAKISTANI ENGLISH

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ABSTRACT

Thesis Title: An Acoustic Study of Diphthongs in Pakistani English

Pakistani English has been the subject of research for some time now and naturally different areas of it have already been researched. However, pronunciation is one of the important areas of Pakistani English which needs to be explored further. The current research is based on Pronunciation of Pakistani English and is limited to diphthongs. In this research, it was explored that how Pakistani English has got its own peculiarities and differences in pronunciation, especially, when it comes to diphthongs. For example, native speakers of English pronounce the word *go* with a glide /gəʊ/ due to the diphthongal effect while Pakistani speakers pronounce the same word with a straight sound which may be observed in the sound /**و**/. In current research, ten words were randomly selected for each diphthong, and twenty four students of Intermediate (Science group) part-II, whose mother tongue was Punjabi, were selected. Later, each participant was given a token word out of the already prepared list and pronunciation of the word was recorded through F-1 OPPO Mobile phone. On the other hand, Cambridge Advanced Learner Dictionary was used to take the token of British pronunciation of all words. Each token, which was one of the diphthongs, was analyzed through PRAAT(5353). Results obtained through PRAAT are in the form of number of pulses, which determine the length of the word, pitches, which show difference of glide, time taken in order to produce the word which once again determines the length of the word and which ultimately shows the difference in pronunciation of the diphthongs. For example the analysis of the data shows that all the participants pronounced **/eɪ/** diphthong with a longer duration (0.361 seconds) as compared with the native speaker (0.145 seconds). Likewise, research participants used different pitch (215.517) and number of pulses (44.333) as compared to the British pitch (109.171) and number of pulses (16) in the pronunciation of the word *ache*. Thus, in current research the results are shown in the form of spectrographs and numeric values. Relevant tables have been prepared and calculated first in Microsoft Excel and then converted into Microsoft Word sheets. On the basis of the collected data and their results, researcher has found out that Pakistani English is different from British English in terms of diphthongs. In the light of this Spectrographic Model, it is concluded that differences in diphthongs' pronunciation, as generated by PRAAT(5.3.53) are peculiar in nature.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

ESL	English as a second language
EFL	English as a foreign language
PE	Pakistani English
BE	British English
RP	Received Pronunciation
SE	Standard English

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DEDICATION

To the true Master and Creator of everything inside and outside of all the universes who gave us an existence when we were nobody.

CHAPTER 1

INTRODUCTION

In this chapter, different areas of English have been described, and the importance of this study has been foregrounded. Moreover, it has been discussed how a language goes through the linguistic changes in general and English in specific. Furthermore, it has also been established how pronunciation of the Pakistani English deviates from the British English when it comes to diphthongs. Finally, statement of the problem, along with significance of the study and the basic questions of the research, have been given.

Pakistan is a country of pluralistic culture. The people living here share different ethnic, cultural, moral, religious, and lingual origins. Including Punjabi, Pashto, Sindhi, Urdu, Saraiki, Brahvi, Hindko and Kashmiri as major languages; a total of 72 languages are spoken in Pakistan (Rahman, 1990). All these languages are intermixed. One may find matching words exceedingly among all these languages. This is because all of them have a great attraction, adaptation and affinity for alien words. Besides the influence of these languages on one another, they also influenced a number of foreign languages. For instance, the influence of local languages of Pakistan on English is quite apparent. The researcher is herein concerned with the influence of the local languages of Pakistan on English spoken in Pakistan; however, the influence is not necessarily just the result of local languages of Pakistan; there may be several other reasons due to which English, spoken in Pakistan, have got certain variations.

Every language allows its speakers a limited number of sounds and no two languages logically have the same number of sounds in terms of vowel/ consonant division. There could be many factors responsible for it. For example, historical development of a language, borrowing and so on. Moreover, human beings have an innate quality of producing different number of sounds. It depends on their natural potential of moulding their tongue in different positions and directions. It is a fact that a person's mother tongue sounds influence him when he wants to learn a foreign language. Since Pakistani people have their own language/s, the influence of their mother tongue or first language causes changes to the sounds of any foreign language and English is not an exception to it. As a result, we come across so many varieties of the same sound whether it be vowels or consonants. Naturally, variation in the articulation of individual sound affects the overall shape of the words of the language -

their pronunciation. For example, sometimes, there are words that are shortened by the people of Pakistan when they (words) are supposed to be stretched (a case of monophthongisation) and sometimes vice versa. In other words, there are different ways in which a word can be spoken or pronounced as it depends on various factors mother tongue being one of them; others could be cultural or social differences, the difference of education system or differences caused by speech disorders (Beech,1993).

This research attempts to find out how the Punjabi speakers of English articulate the English diphthongs. The researcher employed Praat to study three different features of the selected sounds: pitch, pulse and time period. The values and the spectrograms produced by Praat helped the researcher measure the selected sounds in an objective manner.

This area has received special attention of many researchers at national and international levels, such as Kachru, Dr Tariq Rehman and Talat. However, pronunciation variations of English in Pakistan still need more attention of the researchers when it comes to an objective research specifically on diphthongs.

1.1 Status of Variations in the Pakistani English

English is an international language and it is spoken in all countries of the world, including Pakistan,as much as it is spoken by native English speakers. “English is a fast spreading language in Pakistan” (Raza, 2008). A language, when used at such a mass level, naturally gets affected from the local languages, norms, customs and so many other factors. English has also no exception to it and almost all areas of it have been impacted in different countries, wherever it is being spoken as first or second language. In Pakistan also, it is influenced by the above factors. When it comes to pronunciation, the English language is deviated from its native accent that is Received Pronunciation in Pakistan (Rehman).

The pronunciation of the Pakistani English has its own rank and a unique variety because its features differ from that of Standard English. It is necessary to understand their pronunciation pattern. Many researches have been carried out on Pakistani English. For example, Mahboob (2000) concluded that Pakistani English speakers cannot maintain the difference between w and v. They also insert short vowel sounds and break consonants. They also delete any phoneme at the beginning of the words and often substitute them. According to Rehman and Nadeem (2013), first language speakers have a natural tendency to use tone without inviting stressed syllables, that’s

why prime confusion occurs, and the pronunciation of Pakistani speakers greatly deviates from Standard English pronunciation.

1.2 Importance

Many languages were arising during the independence era, and due to the political environment many languages came forward. Owing to the interference of Britishers, English integrated into the Indo-Pak machinery and embedded into the system. (Talat 2002). Earlier during that era the native language was not prevalent and many problems and hurdles arrived in the process of communication (Haq 1983). But for the time they were solved by the learning capabilities of the people. On the other hand the local languages of that period affected the way of speaking. Talat (2002) suggested that there was an impact of the local and regional languages on the pattern of the spoken English and hence the pronunciation of different groups of people vary at a same place. Hence, Pakistani English evolved and consist of different accents. It is more comfortable for people of Pakistan to speak Pakistani English when it comes to pronunciation. It seems very unnatural to speak Pakistani English in British pronunciation.

1.3 Need and Relevance of the Study

Language changes geographically and historically at different rates due to different circumstances. This change results in different varieties, dialects, accents and sometimes even different languages. “Some people favour linguistic changes, other try to reject them. Conservative and older speakers have objections to linguistic changes throughout history. These attitudes have a rare effect on development of language in present day life” (Trask, 1994). In human Cultural Revolution; however, development in language difference has a positive value. In human extension of Biological evolution, cultural pluralism may be a necessary element (Labov, 1972).

It is very difficult to measure linguistic change as the change is usually very slow. The advent of mass communication and colonial experience of English has expedited this change. As far as the change in the English language is concerned, it takes place as a result of difference in geo-cultural and geo-political backgrounds. The different varieties of English give birth to different languages and the chance of mutual unintelligibility increases. Sometimes the linguistic differences are small and we regard them as dialects of single language, but sometimes the difference becomes so great that

it leads to entirely distinct languages (Trask, 1994). External agencies find it difficult to control linguistic changes. Every change in language is necessary for its use in different social and geo- graphic context so controlling the change is unnatural. Indigenous languages and non-native settings influence English and result in enormous English varieties.

Strevens (1985) emphasizes that Standard English is not a class dialect and is not upper class English. Kirkpatrick (2007) claims that the number of Standard English speakers are almost 3% of the population who speak the so called SE with Received Pronunciation. All other dialects have their rules and features. English speakers, around the world, speak English in their own way because they have the right of ownership (Widdowson, 1994).

1.4 Statement of the Problem

Pakistani English differs from the British Standard English in term of grammar, syntactic order, phonetics etc. The current study aims at exploring the acoustic features of the English diphthongs produced by Pakistani Punjabi participants. The study describes the spectrographic and voice report analysis of the Standard British English diphthongs and the diphthongs produced by Pakistani Punjabi participants. Furthermore, with the help of the comparison of the both types of spectrographs, the news sounds have been inferred which replace the British Standard English diphthongs.

1.5 Significance

The research highlights the variations occurring in Pakistani English specially, when it comes to diphthongs. In this research, from collecting the data to the analysis of it, the researcher has taken help from the computer, software (PRAAT 5353) and the mobile phone (OPPO F1). It has made the results of the research more concrete and reliable. Thus, the research may be a milestone in the field of objective researches of Pakistani English. Moreover, the current research not only highlights the differences in the pronunciation of diphthongs but somehow, it also presents the alternative diphthongs that are used in Pakistan by the Punjabi speakers instead of the diphthongs of British English. Finally, it gives a strength to the Pakistani English on the grounds that it seems a different dialect according to Kachru Three Circles Model due to its own peculiar characteristics.

1.6 Objectives

The current study aims to achieve following objectives:

- To find out how the diphthongal articulation by Pakistani, Punjabi speakers in Pakistan is different from the native articulation in terms of pulses, duration and pitch.
- To find out if diphthongal articulation by Pakistani / Punjabi subjects follows uniform patterns.

1.7 Research Questions

- What are the differences between Pakistani English and native articulation (RP) in terms of intensity, duration and pitch?
- What are the differences in pronunciation, in terms of diphthongs, among the study participants?

CHAPTER 2

LITERATURE REVIEW

In this chapter English language has been described back from the history to the present, and the research work, done on English language, at international, Asiatic, sub continental and Pakistani level has been given. Furthermore, the sort of work done on Pakistani English, especially in pronunciation and most importantly on diphthongs has been stated. It has also been analyzed which important aspects, the previous researches lacks and need further research.

Nowadays, English is the most common and acceptable language of publication in the world. A vast attractiveness of English language is found among the people whose first language is not English. The use of English for international communications has increased largely. Countries are shifting towards second language status. A rapidly growing social groups in the developing countries are bilingual. Majority of English speakers are not the first language speakers; English is related closely to many other languages. Even no alternatives are available for many words of the language in many other languages.

2.1 Use of English and Work Done on It at International Level

English is a primary means of international communication. It has about one billion second language speakers. It turned into a universal language as it is a global source of communiqué which is used by each one in the world for communication and correspondence. Everybody maybe just recognizes, and practices American English or British English in their communication without comprehending one's usage of different English, for instance, Australian English, South African English, Malaysian English, Indian English, Spanish English, Irish English, Hong Kong and Canadian English, French English, Pakistani English and so on. Each of that highlights that English has its distinctiveness and interesting quality. Especially, at world level, different people speak English with different accents. The problem is common for those who have English as second language and not the first language. Many of them use or try to use Received Pronunciation which is often described as Received Pronunciation. To address these issues at world level number of linguists have conducted the researches. Lamber (2013) conducted a research on Australian English and described major aspects of Australian English Pronunciation. He differed in vowels and diphthongs. Cox

(2012), also conducted a research on Australian pronunciation and explained the important differences. Bauer (2013), worked on New Zealand English and concluded there are lots of pronunciation variations with in different dialects of New Zealand English. Bui (2016), conducted a research in Vietnamese and narrated how the native speakers of Vietnamese mispronounced the /ð/ and /θ/ sounds. To sum up there are number of researches that have already conducted at international level and propounds that the issue of variations in English pronunciation is not a novel issue. It has been a matter of discussion for a long time in many countries.

2.2 Kachru's Contribution in World Englishes

Kachru introduced The Three-circle Model of World Englishes in 1985 and it had been one of the most dominant models for grouping the varieties of English in the world (Mollin, 2006, p.41). Kachru (1985), described the spread of English in terms of three concentric circles: the Inner Circle, the Outer Circle and the Expanding Circle. These circles explain "the kind of spread, the designs of acquisition and the functional areas in which English is being used across cultures and languages" (Kachru, 1985). Kachru's three-circle of English is still the main initial step for the division of World Englishes (Yoneoka, 2002).

In the Kachru's Three-circle Model, the Inner Circle discusses the traditional bases of English, dominated by the mother-tongue varieties, where English is used as the first language (White, 1997). The countries in the Inner Circle contain the USA, the UK, Australia Canada, and New Zealand. The type of English, which is used here is said to be 'norm providing'. The Outer Circle contains the previous stages of the spread of English in non-native locales, where the language has become part of a country's main institutes, and plays a significant 'second language' role in a bilingual and multilingual setting (Rajadurai, 2005). Most of the countries involved in the Outer Circle are past colonies of the UK and the USA, such as India, Malaysia, Ghana, Singapore, Kenya and some others (Rajadurai, 2005). The English used in the outer circle is measured as 'norm-developing'. The Expanding Circle discusses the regions where English is learnt and used as a foreign language. The regions do not have a past of colonization by members of the Inner Circle (England, United State Of America) and institutional or societal role. English is educated as a 'foreign' language as the most beneficial vehicle of international communication (White, 1997). The countries in the

Expanding Circle contain Poland, Japan, Greece and China (Crystal, 1997). The English used in the Expanding Circle is regarded as 'norm dependent'.

The Kachru's model is dynamic in nature. According to Kachru (1985), separating English speakers into Inner, Outer and Expanding circles is desirable to the traditional native, ESL and EFL labels which involve the dichotomy between native and nonnative speakers (Rajadurai, 2005). The native speakers of English are visually not advantaged since they are not placed at the top of the Three-circle Model.

According to Patil (2006), Kachru's model explains that the three circles represent linguistic truth impeccably; however, Kachru (1985) himself has pointed out that the concentric circles may be overgeneralized and ambiguous areas exist. Some unusual cases like South Africa and Jamaica are challenging to be categorized. As Kachru himself has accepted, the fact is that the groups are not necessarily equally exclusive and grey areas exist among the circles (Rajadurai, 2005). Apart from the ambiguous grouping between circles, Tripathi (1998) says that there are no proper mechanisms to segregate varieties within one circle. So, Crystal (1997) recommends not defining the borders of Kachru's concentric circles in such an absolute terms.

Crystal surprises that it is challenging to distinguish if the Outer Circle monitors Inner Circle rules or it creates its own norms. Rules expansion is also probable in the Expanding Circle. He states that The Three-circle Model of Kachru, flops to study the development of English in the world. It cannot give explanation for the growing use of English, namely English as a lingua franca among speakers who do not share a first language (Mollin, 2006).

The so called "Expanding Circle" of foreign language speakers contains more than seven fifty million speakers in 1997, compared to three seventy five million first language speakers and three seventy five million second language speakers. Global communication has become a common phenomenon among the circles and the enlarged mobility of societies has made special relationships across language borders. Kachru's concentric circles model seem to acknowledge multiplicity but minute commonality across Englishes, unfolding the English varieties as separate (Burt, 2005). Due to the growing global communication, the division between the Outer Circle and the Expanding Circle becomes ambiguous and cannot account for the increasing usage of English in today's world.

In statistic, the range of English usage in the Expanding Circle has become far wider owing to the rapid growth of English. There is much more usage of English today

in some countries of the expanding circle, where it is only a foreign language, than in some of the countries where it has conventionally held a special place (Crystal, 1997). For instance, though Egyptian English is categorized in the Expanding Circle. "There are numeral Egyptian domains, such as tourism, medicine, sciences, or in higher education which spread limbs into the Outer circle as well." (Yoneoka, 2002). The above case shows that the roles of Expanding Circle English nowadays are not as constrained as Karchru stated. It can be seen that there is an inclusion of the Outer and Expanding Circles.

Kachru's Three-circle Model indicates that the Outer Circle cannot amalgamate into the Inner Circle (Patil, 2006). Nevertheless, at times it is hard to describe which one possesses English as the first and native language and which one identifies English as a second language. "There are numerous countries where divergent language behaviors, population movement, massive shifts and language loss, in language use have made it hard to answer the question: "What is one's first language?"(Crystal, 1995, p. 363). So, not only the grouping between the Outer and Expanding Circles, that between Inner Circle and Outer Circles can also be hard.

Various researchers recommend that Kachru's Three Circle Model must not base the grouping of English speakers on national distinctiveness. National individuality must not be a basis of grouping of speakers of a global language. The more English becomes a global language, the more the partition of its speakers into 'native' and 'nonnative' becomes varying (Brutt,2001). Discussing this issue; Rajadurai (2005) offered a changed Three-Circle Model: "While acknowledging the ambiguous differences between circles, majorly, the inner circle could include all users who are capable in English and able to intuitively code switch between global and national as well as local varieties to connect in the most suitable way. The second circle could comprise of speakers who are capable only in local varieties, i.e. native and nonnative speakers with constrained the global proficiency, while the outer circle could be made up of learners of the language"

Though English native speakers do not have higher hierarchy as they are not placed at the topmost of the Three-circle Model, it still fancies the English native speakers in the inner circle. As Burt (2005) remarks, the Inner Circle undoubtedly, is being established, at the highest of the hierarchy. The notion that English is somebody's second language infers that it is somebody else's first language. It gives the impression that English belongs to the native speaker who owns it as his first language. Kachru has

admitted that it is nearly inevitable that anybody would take 'second' as less worthy" (Kachru and Nelson, 1996, p.79). In order to comfort the problem, Yano (2001, p.122-123) has proposed that the ENL and ESL circles can combine into a single ENL circle with two sets of varieties: genetic and functional ENL.

One of the remarks made on Kachru's model: the three circles is that in Expanding Circle the role played by English needs to be further studied. Presently many new forms of English are there and they are not only used in the countries of Inner Circle but also in other countries as well. And it seems that world is now accepting the different varieties of English. As the people are more comfortable while speaking English in their own accent. Kachru (1997) did not disagree. He accepted the reality. The learner of English should be exposed to different variety of accents in English. By doing this, the linguists would also accept different kinds of English accents easily. The learners should be subjected to not only English but to other types of English accents as well (Matsuda, 2003). But Matsuda did not mean that Standard English should be excluded from classrooms. That can act as a reference for study (Dalton and Seidlhofer, 1994). While talking about the Inner circle which implies that it contains the natives of English language and there is uniformity in the language of people included particularly in Inner Circle from all over the world.

At the end of discussion, although there are few limitations of Kachru's model; still, it is worthy to say that it helped a lot as it explained very well about the value of other varieties of English and their use in daily life. The acceptance of different types of Englishes and its promotion was a major contribution of this model.

2.3 Moag's Contribution

Moag (1992) investigates the Fijian variety of English and suggests a life cycle of non-native Englishes. Moag has recognized five stages of the development of the new Englishes. Four of these phases are practiced by all the new English varieties. However, the fifth may only be considered by some. Out of these five phases, Transportation is called the first phase. This argues the advent of English to a place which does not have English earlier. Either one variety or a blend of varieties is brought to a culturally or linguistically new environment. The second stage is named as indigenization. This is pretty a lengthy stage during which the regional linguistic and cultural powers negotiate with the transplanted language assortment and lastly the local linguistic culture is reflected through the variety of language used by the regional

public. At the third stage, there is a swift growth in the amount of users and the uses of language. There is likewise a noticeable growth in the distinctions from the transported variety as the language variety is used in new situations. In the next stage the regional variety is being used in academic institutions and educational environment. This regional assortment becomes a standard in society and the users start learning it. In this stage local literature is written in the regional variety. This stage is named as institutionalization. The fifth stage is elective. In some of the cultures owing to the well-known significance of the other language, the variety falls into abandonment and specific examples, Moag points out Philippines and Malaysia, where the regional languages were endorsed and English was abandoned from the official fields.

2.4 Edgar's Contribution

Edgar Schneider (2003) approves Mufwene (2001) in arguing that "post-colonial Englishes follow a basically uniform expansion process" Schneider (2003) has given a five phase cyclic model of development of the innovative Englishes. He splits the development process into five phases namely Foundation, Exonormative Stabilization, Endonormative, Stabilisation and Differentiation. In the first phase the colonizers reach and the shortened communication mechanisms as pidgins and creoles and get established. In the second stage the language of the incomers, usually the colonial rulers, is learnt by the local community. Due to the effect of the local languages some particular adjustments are made in the language of the colonizers and lexical borrowing from the local languages is also a usual practice in this stage.

The subsequent stage is 'Nativization'. It usually befalls at the end of the colonial and beginning of the post-colonial period. At this time there are the conflicting attitudes to the modifications which are made in phase two. Some of the purists believe that the exterior norms ought to be accepted and stepping away from the externally prescribed rules is not allowable and should be discouraged. The liberalists state that the adjustment and deviation are natural part of the development and it ought to be encouraged.

The next stage is marked as a phase of exonormative stabilization in which local community does not look to the settlers and the variations, earlier on argued and labelled as mistakes, are acknowledged as indigenous standards and the codification process begins and during this phase dictionaries and grammars of the new variety are written and the local community do not deride the nativized variety.

The fifth and the final stage of variation is a likely part of this development process. During this phase the locally established variety begins to vary internally at dialectal level and new variations emerge. In short this model deals with the English language varieties in a diachronic viewpoint. It indicates that the growth of the new varieties of English is a dynamic process.

The fundamental idea shared by all these models is that the English language when used by the non-English speaking societies changes due to its interaction with indigenous languages and indigenous cultures. This nativisation of the language is not approved in the beginning by the local community; however, with the passage of time this indigenous variety wins public approval and becomes a norm which occurs in post-colonial people mostly. It can be said that the variance between these approaches is that of World English or Englishes. Both McArthur and Gorlach state that Globel English or International English should be the new focus of linguistic importance whereas Kachru does not feel any such need. This specific research is in line with Kachru's three circles model. As it is the most related model according to the present position of English in Pakistan. There have been random efforts to study Pakistani English. 1980s were the heydays of variation studies and the idea World Englishes or regional varieties of English was regularly argued. In Pakistan, the local linguists like, Talaat (1988), Abbas (1995), Rahman (1991) Saleemi (1993), , and Haque (1983) had started discussing the issue of English language variation and Pakistani English from 1980s. The international (foreign) linguists like Kachru (1976, 1985, 1992), Baumgardner (1987) and Chaudhry (1995) have also argued the issue of Pakistani English in detail. Some of the works are debated to contextualize the current research.

2.5 The Research Work Done on the English Pronunciation at National and International Level

There are number of studies conducted on the pronunciation of different languages. As Firth (1934 and 1936) did a lot of work on Indian English. Most of his work was on the pronunciation of English in India. Hill (1959), Sisson (1971), Pandit (1964), Passe (1947), Verma (1957) and many other researchers conducted researches on the Indian English. According to Weinreich (1953), there is interference in the primary language by the secondary language. As in the case of Pakistani English we can consider Urdu as the primary and English as secondary language. The meddling of mother language is well explained by Kachru (1969) as this interferes the manner of

speech. Consideration should be given to the primary language and attention should be paid to the primary dialect said by Kachru. In India, a lot of work is done on Indian English for example Gopalkrishan (1960), Datta (1973), Dhall (1965), Kelkar (1957) and various others researchers contributed. In Pakistan Usmani (1965) is another name who conducted research on vowel sounds. He studied the relation of Urdu with Pakistani English. Mahboob (2002) collected data from the people of Karachi. He took a small sample and analyzed their pronunciation of Pakistani English. He concluded that there was interference of other languages as specifically talking about the sample that was from Karachi so their accents were influenced by Sindhi. In the end of his research he compiled the results and stated that they had different accent of Pakistani English which had made it different from other dialects. Basnsal (1962) worked on the vowels of the Hindi language. His study can be applied to Pakistani English and Urdu. When we talk about the pronunciation of Pakistani English there are consonants like /v/ and also /w/ that are usually perceived as one and the listener is unable to distinguish between the two. This feature was studied by Rao (1961) because this was not described in the Hindi research work. He says that there is also influence of spellings on the pronunciation. The words which are unfamiliar; for example, talking about the words borrowed by Urdu or other languages in Pakistani English, they have different pronunciation. The study on vowels can resolve such matters and can guide the speaker. Pakistani English has its own rules in pronouncing words such that different syllables are formed. It can be inferred that Pakistani English is neither identical to Indian English as it has its own accent nor to other languages. Yet India shares the features of phonology with Pakistan, but difference between the accents still exists.

2.6 English in Sub-continent

When different people of different cultures and different languages come in contact with each other, their languages come in contact with each other. Their languages are also influenced due to prolonged and consistent contact. The contact may be for business, trade, immigrations, education of new varieties. The variety can be in accent, pronunciation, style, social dialect or register (Trudgill, 2003). Variety basically refers to offshoot of English .The imperial transplant of English to the subcontinent has produced these Englishes. This imperialism has effected both the socioeconomic life of the people and the native indigenous dialects, e.g. the Urdu of sub- continent's speakers

has affected the English drastically (Sebba, 1997). So, it can be said that English is the new language of South Asia and Pakistan.

There are number of researchers who conducted researches on English in Sub – continent; however, Whitworth(1907) is the earliest British writer who differentiated English of sub-continent.Later, Goffin (1934) and Kindersley (1938) tried to bring the clear picture of these differences. However, their efforts were to point out these differences as mistakes occurring in India. After a long time in 1960 the same initiative was taken by an Indian Linguist Braj Kachru. But this time this nonnative speaker does a tremendous job. He divided English into three concentric circles, Inner Circle, Outer Circle and Expanding Circle. His further books *Asian Englishes Beyond the Canon* and The *Indianization of English* gave new horizons to the nonnative speakers of English. However, most of his claims specially *use of English in different culture* were not accepted readily and strongly rejected by his contemporaries like Mukesh Ranjan Verma (2000) in his book *Reflection on Indian English literature* .

The experiences of post – colonial writers have been expressed in the local variety of English. The largely spoken under language in the subcontinent has been submerged with English by them perhaps to indigenize their allegiance. There is an admixture of English and Urdu lexemes, which marks another variety of English. “Idiomatic turns for speech and indigenous lexical items are used by post – colonial writers of Pakistan for artistic reasons” (Rahman, 2010).

2.7 Work Done in Pakistan on Pakistani English

Baumgardne (1988), not only published many of his articles on Pakistani English, but he also wrote a book *The English language In Pakistan*. He also conducted a study regarding acceptability of lexical and grammatical variation occurring in Pakistani English. To greater extant he was successful to prove that Pakistani English is different not only in the lexical relations but also in Noun, verb and adjectives. However, he did not address the pronunciation differences that have been focused in current research.

Kamran (2016) is one of the very important researchers who used PRAAT in order to highlight the stress pattern in Pakistani English. She asserted that there was need of research upon supra-segmental features of the Pakistani English pronunciation which makes it significantly different from Received Pronunciation. She investigated the sub-variety of the Pakistani English which is English News Media through auditory and acoustic phonetics. She used PRAAT to get the waveform and spectrograph of the

word structure. “Among many other differenves , PSE forms ‘iambic’foot patteren ; unlike native varieties of Englsih which make ‘trochaic’ foot pattern. (Kamran, 2006)

Mahboob and Ahmar (2004) discussed phonology of the Pakistani English at segmental level. There work was also mainly concerned upon stress level of Pakistani English pronunciation. However, they mostly relied upon theoretical framework of the other South Asian dialect of English.

Raza (2008) discussed phonological features of the sub-varieties of Pakistani English on the basis of the first language of the participants that were,Urdu, Punjabi, Pashto and Sindhi.

Asfar and Kamran (2011) drew a comparative analysis between consonantal phoneme of Pakistani English and the British Standard English. In this study, they discussed the inventorial, realizational, incidental and distributional variances in the consonantal phonemes of these two varieties.

Talat (2002) studied this topic but his main concern was something related to change of process. He tried to prove that Pakistani English is not stable yet rather it is in process of evolution according to Pakistani culture and norms. Mahboob (2009) conducted a study in the similar area but he focuses on the area that how Islam is playing a role to change English in term of grammar. Dr Tariq Rehman (1988) is another remarkable researcher who conducted his research in the same area. He compared the Pakistani English with Standard English. He even divided Pakistani English into four further groups.

Dr Riaz Hassan in his book *Remaking English in Pakistan* gave an ample portion to grammatical variation. He defined the use of future helping verb in a sentence two times. As he writes:

“He will pass if he will study hard”

“To prove a point, one student brought a newspaper to class to show that a senior journalist had used it” (Riaz, 2000). But like other researcher Hassan also did not discuss the pronunciation peculiarities at standard level. His main focus has been to point out some particular aspects of grammatical variation like use of article in Pakistani English is not like native speaker of English due to unavailability of article in National language of Pakistan Urdu. He further described the use of interrogative sentence as used by Pakistani speakers.

Furthermore, Qaisara (2010) is another researcher who conducted a research in this area. She analyzed vowel sounds in Pakistani English and showed the difference

from RP. However, results of this research may not be declared authentic on the ground that researcher used no software in her research. Iqra (2011) also worked in this field and published an article on distinctiveness of Pakistani English. However their focus had been on /θ/& /ð/ sounds and researchers used no software in order to analyze the results.

Being more precise, at pronunciation level there are some researches, conducted in National University of Modern Languages at BS, Master and P.HD which discuss the different areas of pronunciation.

Mahmood (2013) conducted a research on 375 students of NUML, enrolled in diploma program of the English language. He found the relation of phonemic transcription to the pronunciation of these students, being Pakistani English learners. He took verbal and the written test of 375 students and analysed them through SPSS 15 and also manually. He stated that performance of the English language learners cannot be judged merely through phonemic transcription; it should be correlated with their pronunciation instead. He found out the degree of relationship between phonemic transcription and the pronunciation of Pakistani learners of English. The research focused English vowel sounds, both pure vowels and diphthongs, and lexical stress. He concluded that Pakistani learners of the English language did not perform well equally in the verbal performance and the phonemic transcription. He further resulted that there was a medium relationship between the verbal and the phonemic transcription. He also stated that the phonemic transcription was far better than the verbal pronunciation.

Shakeel (2012) conducted a research in which he talked about wrong pronounced English vowel sound by Pakistani speakers. It was a case study in which researcher used no software and gave his subjective opinion to analyze the data. Secondly, instead of claiming a separate identity researcher focused the variations in pronunciation as mistakes done by Pakistani Speaker. Farooq (2012) conducted a research in which he tried to show what are the problems faced by Punjabi speaker from all over the Punjab when they learn English pronunciation. He explained that there are different factors which interfere to be proficient in Standard English pronunciation.

Another research was conducted by Hafiz (2001) in which the researcher tried to identify the pronunciation problems regarding uttering diphthongs at elementary level. Researcher relied upon his intuition to interpret the data due to which there is ample reflection of subjectivity. One of the researches was conducted by Ashraf (2013) in order to identify problematic areas in English pronunciation for Sindhi learners.

Researcher constraint his research up to consonants sounds. However one of the major flaws of this research, like other studies was of not using any scientific formula or computational technique. Analysis of the data was altogether dependent upon researchers own intuition. Ayaz (2014) research, in similar area, talked about some particular sounds on which Punjabi speakers remain unable to get full command.

"English language has certain sounds of which the exact and equivalent do not exist in Punjabi Language. So, Punjabi students face difficulties in correct articulation of such sounds, while speaking English" (Ayaz, 2014).

Some scholars have also researched the cultural side of Pakistani English. For example, Mahboob (2009) studied traditional aspect and also Islamic differences and their association with Pakistani English. As majority of the residents of Pakistan are Muslims and the chief religion is Islam and some traces of Arabic accent is also seen in pronunciation. So, Mahboob illustrated that the religion and the culture is mirrored in the English spoken by the people of Pakistan.

As tradition and customs play an important part in imparting there effect on one's life, on his everyday routine work and even on his language too, same is the case with Pakistani English. Pakistani English sounds somewhat like Urdu, that is, it gives a feeling that one is reflecting his local society and its traditions. This was revealed by Sidhwa (1993). He further said that we can easily identify people on the basis of their accents which mirror their background. The civilization of Pakistan is represented and reflected by Pakistani English.

Raza (2008) shared that English is not the national language but has the same importance as that of Urdu. Presently, it is growing rapidly and extensively. Sheikh (2012) said that, an unfamiliar person to a region or a place has a potent affinity to reorganize the sounds which go well and matches to their intention. Thus, the reconstruction of words and their sounds becomes necessary to convey their point of interest and this benefits them the most. First language is also a contributing factor in this reformation process of words. This may also lead to the diversity in a language in a small place. This also influences other people who are already living in that place, their way of speaking is different and not only of English but also of their mother language.

Many problems prevail due to differences in traditions and language. It acts as a barrier in communication. Communication gap occurs due to wide differences as Nadeem and Rehman (2013) said. There is trouble in the delivery of message. As in

Pakistan, English is used as the second language and majority in Pakistan are Punjabi speakers and their way of speaking English is far different from the Standard English and this causes a lot of perplexity and it is the main cause. This was thought by many researchers in the past. But as the time passes, it has been proven that Pakistani English is different but it does not cause any confusion in fact it is acknowledged by the Pakistani people.

The meticulous work regarding the diversity in Pakistani English has been done by many people and there are numerous books regarding that. One of the books written by Rahman (1990) is a thorough depiction about variety in Pakistani English. He classified Pakistani English into four sets. He also compared elements of Pakistani English with English of the natives. Though such analytical studies and the approach used is unrefined and yield trivial fallouts (Baumgardner, 1993). His research is very vast as he talked about the various accents in Pakistani English. He added that many people tried to abolish Pakistani English but due to its acceptance and unlimited spread it is difficult to put it to an end. People like to speak Pakistani English and it gives them ease and they don't have to pronounce words according to the perceptive pronunciation. As it is their language. Baumgardner said that people have also added some words of Urdu in Pakistani English which makes it even more comfortable to speak it. They don't have to practice it and can speak casually.

Pakistani English is ready to be a variety just like all other kinds of English spoken in different places like in India, Nepal, Bangladesh and many other regions of the world. English, in the very end of 16th century came into existence in the South Asia. It was all detected by Kachru (1982) but the work on the pronunciation at that time was not enough from his side. McCrum (1992) said at that time, that the Pakistani English is blend of other languages as well. Furthermore, it was seen that many words in Pakistani English is borrowed by other languages for example like Urdu. Some words like '*khusa'* , '*pajamas'* and many other are pirated from Urdu language. The pronunciation of such borrowed words is the same in Pakistani English as that of in Urdu. The borrowed words make Pakistani English more significant as these words are not available in Standard English and the worth of Pakistani English increases. There are pros and cons of everything like the above, Standard English cannot provide such particular words as the involvement of culture is also evident from certain words. This

shows that the Pakistani English is different and has its own style and it is accepted by the society as well.

Laver (1994) explained that the true identity of a person is because of the nation it belongs to; for example, as in the case of Asia there are innumerable sets of population. He described that even in a specific nation there is a variety of people as the population is never constant. It always changes from time to time as some people immigrate and other emigrate. The one who settles down at a place also bring in his own language to that place. In Pakistan same thing happens too. The language of immigrant is affected by the new surroundings whereas the residents of that place who comes in contact to that person their language is also influenced. In Lavers opinion the individuality is also based on the speaker's language. In Pakistan there are many regional languages like Saraiki, Pushto, Balochi, Hindko, Sindhi, Potohari language. The accent of these languages, on the local and national scale has an effect on the official language of Pakistan that is English. Due to the peculiar accent of English one can easily recognize the identity of a person. In Pakistan many immigrants. Their way of talking and the different accent give uniqueness to Pakistani English.

Mahboob (2004) talked about the transformed and reformed pronunciation of words. It depends on the aptitude of the learner that how he learns English. His proficiency depends upon his attitude and seriousness. The determination of seeking knowledge specifically talking about English and the pronunciation is most important in the way of communication. One has to be crystal clear about the concepts of vowels and their pronunciation. He suggested that in this regard Pakistanis should put their interest in practicing English and should make themselves more comfortable while writing and also in speaking. By doing practice of English, Pakistani people will learn the pattern of pronunciation which is the prime focus during a conversation. In this way all the problems faced during a conversation gets solved. On contrary to this most of the Pakistanis think that they don't need any guidance and they deliberately did not want to continue the process of learning English. The reason which Mahboob (2004) described is that most of the people live in rural areas and that areas are still underdeveloped. The people of Pakistan living in underdeveloped areas think that they have not felt needs for learning English. Economically active population living in underdeveloped areas also has no desire as they pretend that they know enough English. But they are unaware of the fact that in today's world language barriers are limiting the livelihood. So, they need to soak up the new trends and should wipe out old trends to

make the both ends meet. Keeping this in view, many organizations are working with integrated approach with sectors like education sector and many more. These organizations help the people by educating them and by promoting Pakistani English. As English is included in every subject whether it is economics, physics or computer sciences or we can simply say that almost every subject is in English (Talat, 2002). According to him one has to learn the basics of English grammar, use of vowels and consonants also the sounds of vowels as well as consonants, parts of speech and making of a sentence. However, Pakistani English has got its own identity and the people all over Pakistan have different speaking styles of English. And in a same country there is a variety in English language due to different accents.

While talking about the way of speaking English and the Punjabi accent reflecting from the Pakistani English, Raheem and Abbas (2007) surveyed in this regard and it was done between the two genders so they found out that the girls, due to their very conscious nature about their language, their English accent is not much influenced by Punjabi language as that of the boys. From the study it became obvious that some of the females were also reluctant to speak their native, Punjabi language somehow they did not appreciate talk in Punjabi but some interesting and contrary outcomes were also witnessed that when they converse fluently in Pakistani English. Their accent makes their native language visible and they can't conceal it. On other hand, talking about the male gender their native language was so obvious while speaking Pakistani English. Hence, the study was concluded that even if the participants had Punjabi accent of Pakistani English but it was not a barrier in a communication and conversation was carried out without any difficulty. It gives an identity to a person and one cannot hide the native language as it is mirrored while speaking Pakistani English.

Many scholars conducted research on Pakistani English but few did their research specifically on the majority of population, which is more than half that is Punjabi population. Some researchers like Hussain and Mehmood (2012) did not ignore this area and concluded that the way they pronounced the words were different than the standard English. They also concluded that many sounds were substituted. Alike outcomes were also obtained by Raza (2008). Raza also assumed that an uneducated person will alter the words of English and same will be the case of the educated ones. Their pronunciation of English is swayed by Punjabi.

Hussain (2012) concluded that the Punjabi people were confused while speaking English as they knew the other languages as well as described earlier. So, the

most evident effect on Pakistani English is of Punjabi and the reason and the problem is same for all the Punjabi speakers while speaking Pakistani English. This can also be due to the fact that as the vocal organs are developed accordingly and in such a way that they reflect their mother tongue in their pronunciation. Faheem (2012) says that main constituent which gives Punjabi accent to Pakistani English is the role of Punjabi films in Pakistani society. The Punjabi Films as well as Punjabi language is promoted in the neighboring country of Pakistan that is India. As in India, Punjabi is not suppressed and it being promoted through Punjabi dramas and especially through movies. In Pakistan it is a common observation that Indian Punjabi films are watched as a leisurely activity. And they had a long lasting impact on the memory and it comes up while speaking even Urdu. The pronunciation gets different and when we listen to Pakistani English from those fellows, the color of Punjabi is evident from their conversation. Despite the fact that the Punjabi people are educated but they still can't change their lifestyles and behaviors and they still speak Pakistani English in Punjabi accent. As their mother language is in their blood, they can't separate it and they cannot get rid of it even if they want to. So this gives another variety of Pakistani English.

Pakistani English, on the bright side helped a lot in communication and it removed the hindrances. It has also eased the interaction with other people of different regions. It has also facilitated people of Pakistan in adaption of new and various styles and pronunciation skills to some extent (Talat 2002). Different patterns of speaking English are acquired from various cultures present in Pakistan. Regional languages also take part in the formation of Pakistani English. According to Talat (2002), it is not wrong to say that at regional level many languages are present and there flavor is seen in Pakistani English and this aspect gives uniqueness and distinctiveness to Pakistani English. Pakistani English is represented in a different way. It has a touch of local native languages. Thus, the variability in Pakistani English makes it well known.

Baumgarnder (1993), Chaudhry (1995), Hashmi (2000), Mahboob (2004), Rahman (1991), Talat (2002), Kachru (1988) and Nelson (2006), all of them worked on Pakistani English. Baumgardner (1993) has done the most comprehensive work. He also did comparison among local, national and international English. He also emphasized on the usage of parts of speech like verb, adjective and noun that how and in which way they are pronounced. He described that what are the social impacts on the Pakistani English and what are the outcomes. He explained about the widespread of

Pakistani English and it has received approval from every single person in the country. He concluded Pakistani English is not limited to only a particular area. It is being used widely.

Some work on the patterns of speech of sound and phonetics has also been done by Mahboob and Huma (2004), Chaudhry (1995), and Rahman (1990). The variance in the pattern of speech is simple to recognize and this variance is because of the influence of provincial languages and there is visible difference in the Pakistani English spoken by them, by the people living in different localities. They further concluded that there were some glitches in the process of exchanging the ideas among the people and they were based not on the differences in the opinions of the people but due to hindrances in the communication. But now people have accepted each other's way of pronunciation of Pakistani English and it may be the victory of Pakistani English as a language. The summed up that different provinces give a unique blend to Pakistani English. Through their accents we can identify their province.

Damron (2004) described the position of the tone in a communication. She analyzed the role of Urdu and its association with English uttered in Pakistan. As a result she came to the end that the pitch and the pronunciation of Pakistani English is poles apart to that of the standard English and this difference was because of the power of Urdu language. This difference between the two gives Pakistani English a different characteristic. She said that due to this characteristic Pakistani English can be easily recognized and if the people try to pronounce words according to perceptive pronunciation deliberately that will not last longer and it will sound fake and unnatural. Therefore, Pakistani English sounds good than to be unnatural.

English cannot only be learnt from communication or from mass media it can also be learnt from an institute especially programmed for the people who are unable to speak or hesitate in speaking Pakistani English (Sidhwa, 1993). Many surveys were conducted in this regard, one of them was conducted by Rasheed (2009). According to her assessment, more than 96% people who learn English from such institutions use that for interacting with other people and that not only includes the speakers of standard English but also with their Pakistani fellows and merely 2% of learners use it to interact with the speakers of standard English, whose first language is English. As from the survey it is obvious that the Pakistani English is no longer behind the Standard English. Pakistani English is being encouraged by the speakers and they are not ashamed of

using Pakistani English in front of the native English speakers. Rasheed also said that Pakistani speakers were very confident while talking to the native ones. Even though their style of pronunciation was different but rather being anxious they were carefree at using Pakistani English in their speech. Based on this survey, we came to the end that the Pakistani English is recognized as an individual dialect by people of Pakistan and it has yet to be accepted internationally.

Hassan (2000) also conducted the research that included many problems concerning the spellings in English of Pakistan. Lack of the knowledge and lack of interest in getting education were the contributing factors in the spelling alteration He stated. English as a subject, which is being taught in primary and high schools, is even not taught up to the mark. According to him it lacks appropriateness and in some institutions it is taught not accordingly to the Standard English which affects the overall proficiency of a person to speak Pakistani English. In this way Pakistani speakers utter different pronunciation even if they know how to speak error-free English, and this all is due to domination of Urdu language beside numerous cultural and historical factors. Hassan added that Urdu had also impacted the pronunciation of the instructors of English subject and in return it brought a miserable alteration in the way of pronouncing words in Pakistani English. He blamed Urdu for the difference in pronunciation of Pakistani English. But in his research he only focused on the Pakistan's official language Urdu. He did not go deep and studied the reason behind the changed pronunciation of Pakistani English. His research needs a second look. The reason for the difference in their pronunciation can be described as Urdu is a language which is spoken from the beginning and it is used in daily life and the accent of Pakistani English has a reflection of Urdu dialect. So it is not worthy to worry about the difference in pronunciation of vowels and consonants in Pakistani English. As it is another variety of English language.

In Standard English, there is no inconsistency. It has symmetry and orderliness. It is not strayed and is not under any influence. One of the researchers Hassan (2000) independently did some effort and in his view there is irregularity in the pattern of Pakistani English. This irregularity, aberration and divergence are well rooted in Pakistani English. Many people of Pakistan do not know how to use appropriate words and how to write proper letters that's why there is no consistency and fluency. He discussed the usage of vocabulary in Pakistani English. His study was only limited to

the aberrations of Pakistani English in writings. He did not cover the aspect of pronunciation of Pakistani English in his research.

In Pakistan while talking about learning English by the adults, people discourage them and they do not cheer them so they feel shy while learning and nervous during speaking (Ahmer, 2004). They have a fear. They are not confident enough in speaking English. Ahmer (2004) did research on Pakistani adult population and concluded that it is difficult to convince them. During his survey he noted that many of them were doing jobs in different institutions and they were imparting education to students aged 7-35 years. And all those instructors were not hesitant to speak English and there was no limitation in communication. They were speaking English in a different accent while delivering there lectures. Their pronunciation was reflecting their surroundings and they had different style of speaking English. There were different patterns of speech which was seen clearly through their conversation. Their accent of English represented their regions. Their native language was reflected through their pronunciation of words. Ahmer (2004) concluded that different speaking styles were seen in Pakistani English.

Leech (1991) said that a research should be established on the facts. Moreover, talking about research on English language emphases should be given on the sample population and they should represent the whole population. Collecting the data from population by randomization is the best method to prevent any bias. While doing qualitative or quantitative research on Pakistani English, the population sample should comprise of people from all over Pakistan, from four provinces. Matching and standardization should be done prior to a research to avoid the confounding factor.

Sheikh (2013) conducted a research in which newspapers especially of English were picked from all over Pakistan and people who were interested and who had no interest in reading newspaper were also included in the study. According to that research people who read newspapers, their pronunciation was good while those who had no interest in reading newspaper when they spoke English their pronunciation was a bit different. They make different sounds of consonants and vowels while reading a word and a sentence. Yet, they were able to deliver the correct news to the listener. Some of the under research population was unable to pronounce simple words. In the end the researcher concluded that only those who tend to read more English newspapers had better or native like pronunciation than those who do not read English newspapers

have their own accent. But there is deficiency in this research the other factors were not kept in consideration.

Shah (2003) talked about the means of speech and the attitude of people towards a language. He said that many of the Pakistani speakers and debaters who use English as their language and in their conversation it has an impact of their surrounding atmosphere. Even though they are well aware of the rules and regulations of Standard English and about the grammar aspect of English but still they need a lot of practice in the regard of phonation. The sounds of the letters are very important during delivery of a speech. The incorrect enunciation of vowels as well as of consonants is the prime component of deviation from Standard English. In addition to the earlier he said that Pakistani people in everyday speech use some words which are confined to a particular group of people that another person cannot understand which is not from that particular group. In Pakistan some of the English words are slang or the language which is outside the conventional use, gives the wrong meaning and they are misunderstood sometimes not only by an uneducated person but also by a literate. Shah gave the reason for this misconception that the people are eager to use slang words and in this impulsiveness they forget that whether they pronounced it accordingly or not. Hence he concluded that the knowledge of phonetics is very important in formal as well as in informal speech and conversation. As Shah's research was a subjective study he focused on the attitude towards learning, the surroundings and the grammar aspect. He did not focus on the fact that the pronunciation of the people in the study had a variety of speech patterns which cannot be changed as they are not acquired. So he lacked this aspect in his research.

Ahmer and Mahboob (2004) did a lot of work on the subject of pronunciation of words. They explained that sometimes there are complex and unique sounds made by two vowels, 'the diphthongs'. People in Pakistan usually make different diphthongs as a true diphthong that is the sound which begins with the sound of one vowel and ends with the sound of other vowel. It is very important to learn the sounds of vowels and there combination with different letters and words. Without having the knowledge about them this can mislead the listener and he/she can misunderstand the conversation. Learning the pronunciation prevents the misinterpretations. A correct pronunciation helps to conceal the background of a person. Thus, pronunciation is an excellent tool which prevents to reveal the true identity of a person, his culture, ethnicity and way of living.

Benecke (1991) said that the numbers of English speakers are increasing day by day due to vast spread of English in every sector of life as it is the essential factor in communication. He also pointed towards the integration of English in other domains as well. He also did some work regarding vocabulary, use of noun and pronoun and sentence making. According to him most of the people did not know how to write English phrases. Their learning skills are not strong and they need more attention because if once someone writes in the wrong way it delivers fallacious message. He did a lot of research regarding the writing skills but his research lacks the work about sounds of words. Crystal (2003) worked in the regard of pronunciation. He stated that most of the people are under the influence of American English. They pronounce words in a different way than the Standard English. He indicated the way in which people adopt the American Accent and the pattern of sounds and the sound of vowels. In Pakistan some people try to adopt American style of speaking and they try to pronounce the words and make sounds during speaking like that of Americans. But Pakistani people are unable to change their accent as their first language in not English. As for them it is not difficult to learn other languages like English but during the process of learning one has to keep in mind that one should also learn how to pronounce the words. Hence, the Pakistani English can never be abolished as it is difficult and it is unnatural to adopt other type of accent. Pakistani people will speak English in their own way.

To sum up, English language keeps a high prestige in Pakistan and is used in different domains. There are number of variations in it; especially, in pronunciation, with reference to diphthongs; moreover, it lies in the outer circle of Braj Kachru's Three Circle Model. To add up, pronunciation is one of the important areas of Pakistani English; especially, diphthongs are worth-studying on the score that work done in this area is not enough to bring the concrete results.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter presents the type of the current research, and the approach which has been employed to analyze the data. The researcher has described the population/samples and also its technique, procedure of the data collection and then process of its analysis. The chapter also includes the limitations of the research. Moreover, theoretical framework, which may be the navigation of this research, has been explained in this chapter.

3.1 Type of Research

The research is both quantitative and qualitative in nature and it deals with the numeric values and spectrographs rendered by PRAAT.

3.2 Study Participants / Sample

The 24 students of intermediate, enrolled in Pre- medical and pre engineering, were targeted. Their age group were 18 to 20 years and all of them were male students. Their background was especially investigated before their selection. All of the selected students had Punjabi (Majhi dialect) as their mother tongue, Urdu as their second language and English as the third language. All of them were born in Islamabad and brought up in very city. Their education, from Play Group to Matric, had been done in the different English medium institutions of Islamabad. Furthermore, all of those students could express their thoughts in the English language fluently. The participants (24) were divided into eight groups: therefore, each group contained three participants. Each participant had to utter ten words of the same diphthong. It was difficult to include more than three participants for each table due to the number of calculations: therefore, the researcher included twenty-four participants for all eight diphthongs, giving each group of three students a different diphthong to pronounce.

3.3 Sampling technique

First of all, eighty words, containing eight diphthongs, were selected conveniently. Pronunciation of these words were supposed to be downloaded from aforementioned dictionary. Most of the selected words were either mono syllable or two syllable words. All of these audio samples were downloaded in MP3 format in

order to bring uniformity in the voice quality. Moreover, all of these samples were of the male speakers.

3.4 Instruments and Procedure of Data Collection

Research Tools

In current research, a list of eight diphthongs was prepared in which 80 words were included. These eighty words were classified into eight groups thus each group contained ten words, having the same diphthongal sounds.

3.5 Procedure

Step – 1

The data was collected in two major stages. At first stage, *Cambridge Advanced Learner Dictionary* was used to get British Pronunciation (oral part) of the selected words. It had been taken care that all of the speech samples should be of the male speakers on the grounds that these samples would be compared with the samples which were also of male speakers.

At second stage, a quiet room was selected for recording purpose of the selected eighty words. The recording of the aforementioned words was done through OPPO/F1 (Plus) Mobile Phone. It had been taken care that each of the words should be recorded with 12 cm distance of the cell phone from the source of the speech. No hand free or microphone had been used during this recording. No extra audio effects, like base, echo etc. were added in this entire process.

Step-2

3.6 Methodology of Data Analysis

In order to calculate these differences between pronunciation of BE and the PE, PRAAT version (5.3.53) (Boersma and Weenink, 2000) was used as a tool by downloading it from ‘www.praat.org’ which detected frequencies, pulses and pitches of these words statistically. Moreover, data had been analykzed at two levels: first, spectrographs were interpreted, secondly, the tables of numeric data were analyzed.

As mentioned earlier, data had been analyzed at two basic levels, and each level was subsequently divided into two sub stages. At first level, all standard voice samples were analyzed with the help of PRAAT. The results had been collected in the form of spectrographs. These were the analogue signals which showed different analysis

according to the pitch, pulses and time duration of a particular word. All these three features make sound of a speaker different from any other speaker. For example, pitch, the quality of a sound governed by the rate of vibrations producing it; the degree of highness or lowness of a tone; number of pulses, the contraction and the expansion of sound waves due to the way a sound is produced and time period, time a speaker takes to utter a word delineates a sound in a way which will make it distinguish from any other sound. At second stage, the numeric reports had been collected where results are depicted in numeric values. These numeric values showed three sorts of results that were pitch, pulses and time period. The difference; however, between these two stages were of the analogue signals that were portrayed on spectrographs and digital data which had been shown in mathematical values.

At second level, pronunciation samples, other than standard pronunciation, had been experimented through PRAAT. At first stage, results were obtained in the form of analogue signals i.e. spectrographs. At second stage, Pronunciation samples of Pakistani speakers were experimented and results were obtained in the form of numeric data. These results were also a manifestation of number of pulses, pitch and time duration which speaker took to pronounce a particular diphthong.

3.7 Delimitation

Variations in Pakistani English language is really a broad area of research and deals with grammar, pronunciation, lexical variations etc. Pronunciation itself is a broad area in which vowels, including diphthongs, and consonants can be discussed. However, current study has been delimited to variations in pronunciation with special focus on diphthongs. However, current purposed research is delimited as it would focus upon the English pronunciations of Punjabi speakers only. I was also delimited in term of research participants as it studied the English pronunciation of Punjabi speakers only.

3.8 Limitations

In current research, it was tried to use maximum available recourses; however, the researcher still faced some of the limitations at number of stages. First, the room, used for the purpose of recording was not sound proof; however, any unwanted noise did not overwhelm the needed data and naturally the researcher did not face any serious problem in terms of perception of the recorded data.

Secondly, the researcher did not have access to any professional mike which could be attached to the mobile phone so that the quality of the results could be better though absence of such a sophisticated tool did not hamper the recording process by any means.

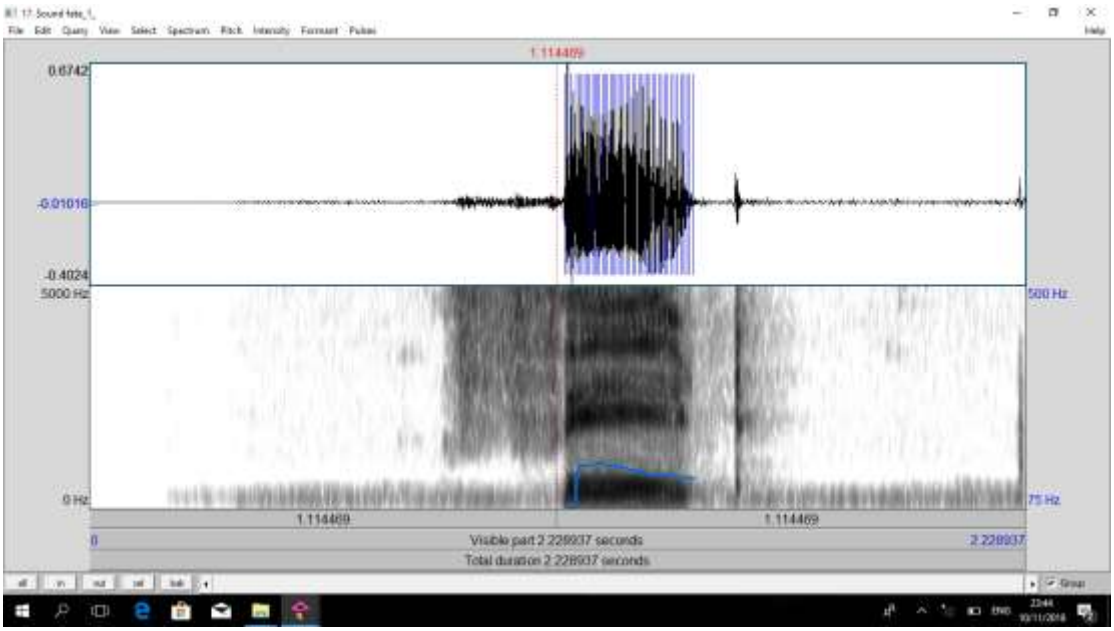
Thirdly, the Punjabi speakers come from different the backgrounds and have different dialects of Punjabi as their mother tongue. The researcher, however, included just a group of the Punjabi speakers whose dialect was Majhi due to the unavailability of the other groups, speaking other dialects of Punjabi.

3.9 Theoretical Framework

Spectrographic Analysis of Diphthong (An Analytical Model)

Spectrographs are the printed forms of the sound which give a clear idea that how a particular sound is produced in term of its main features. There may be so many features of that sound; for example, time period, pitch, number of pulses, intensity, frequency etc. The magnitude of these values are worth-reading because it gives a clear picture that how a particular sound speech is different from another sound. These spectrographs are produced by an acoustic software like, Actran, Acoustica, Praat, Pcon.Planner etc. Each of these applications analyzes the sound according to its coding system and produces the results in the form of spectrographs. These spectrographs keep their own specific features. These features show the difference of the sound. The current research is based upon the spectrographic analysis of the English diphthongs, produced by an acoustic software PRAAT.

The spectrograph is divided mainly, into two halves. Each half is different from the other half due to its own function.



The upper half, in figure – A, shows the number of pulses in blue color which may be different according to the nature of the sound. Even if a same word is pronounced by two speakers differently, number of pulses would be different depending upon the nature of change. However, sometimes these number of pulses are found difficult to count from a spectrograph due to which an observer needs the cross check. In order to resolve the problem, these counted number of pulses are matched with another report which is generated by PRAAT. This report is called Voice-Report which contains the exact value of these number of pulses.

The lower half of the spectrograph shows two important features that are frequency and time period. The rectangular area of the spectrograph is the graph of frequency while in the bottom of the spectrographs there are the values of time period. The first one shows the time period of any selected part of the sound from a spectrograph while the lower part shows the time period of complete word which would be inserted in PRAAT for acoustic analysis.

In current research this Spectrographic-Modal was used in which three main features, number of pulses, frequency and time period of the participants and the British token were focused.

CHAPTER 4

DATA ANALYSIS

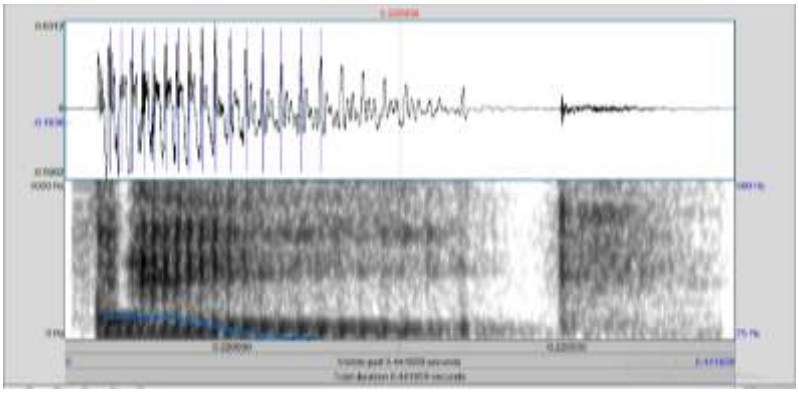
In this chapter, the researcher has analyzed the data which was collected at two stages. First, one set of spectrographs out of ten (rest of them are the part of the appendix) , obtained through PRAAT, have been presented and interpreted in terms of pitch, number of pulses and the time period which a speaker took in order to pronounce the selected words. Secondly, the tables have been prepared in which numeric data has been classified in different columns, with the help of the voice reports, obtained through PRAAT, and then it has also been interpreted in the light of Kachru's Three Circle Model.

/eɪ/

/eɪ/ is a diphthong which has been widely manipulated by the Pakistani speakers and they tend to pronounce it in their own way. When the researcher analyzed the diphthong through PRAAT, it was noticed on spectrograph that the diphthong had different areas of intensity as compared to the native speaker. Three research participants pronounced the diphthong but they did it differently from/than the native speaker of English.10 chosen words were experimented in this regard results of which have been given below.

Ache

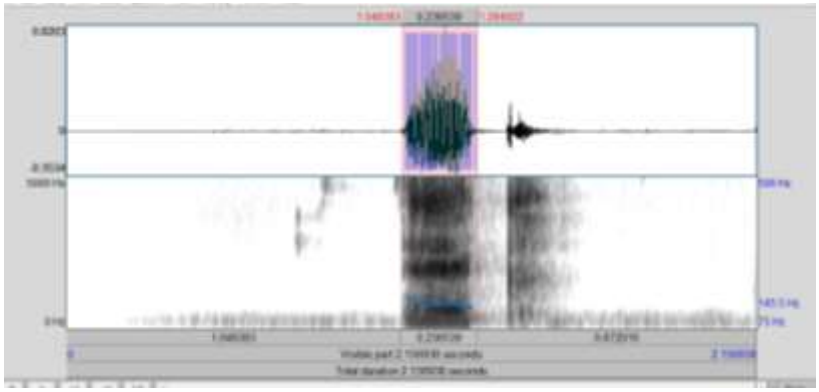
Figure 1 British English



Although spectrographs are less reliable as compared to a complete voice report, some certain conclusions can still be drawn depending upon these manifestations. For example, the above and the following three spectrographs are depicting the acoustic results of the word *ache*. The spectrograph, including all other spectrographs as well, can be divided into two halves. The blue horizontal lines in upper half show the number

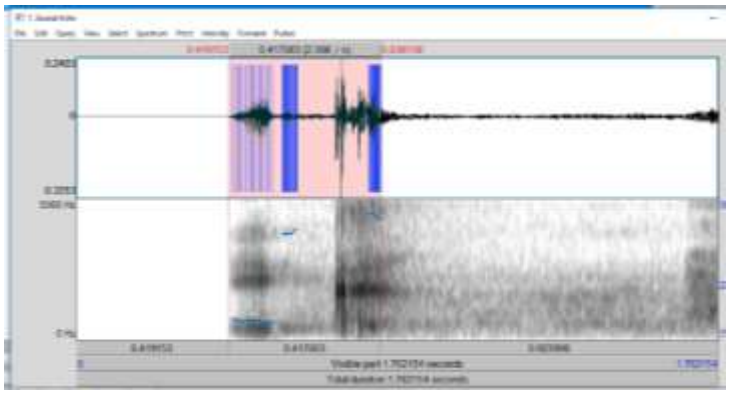
of pulses produced by the speaker and determine the difference of the pronunciation and the lower half shows frequency graph which has been depicted through blue, gliding line. The graphical presentation of the frequency, number of pulses and the time period are most notable features of this graph. The line of the frequency is gradually gliding downward and the time period is showing the number 0.441 seconds in above graph which belongs to British pronunciation.

Figure 2 Pakistani English (Participant 1)



The following spectrographs of the same diphthong is different from the very first spectrograph. in term of frequency which is a straight line, blue in color. Moreover, time taken by the participant in order to pronounce the word is also different as compared to British Pronunciation which strongly suggests this pronunciation to be the feature Pakistani English Pronunciation.

Figure 3 Pakistani English (Participant 2)



The above graph also shows notably different facts and figures owing to the covered area by the number of pulses (exact values have been discussed in the second

stage of the interpretation), the broken blue line of frequency graph in second half and the time period in the bottom of the graph 1.762 seconds.

The following graph shows the product of the third participant's pronunciation and is like the second graph in its features.

Figure 4 Pakistani English (Participant 3)

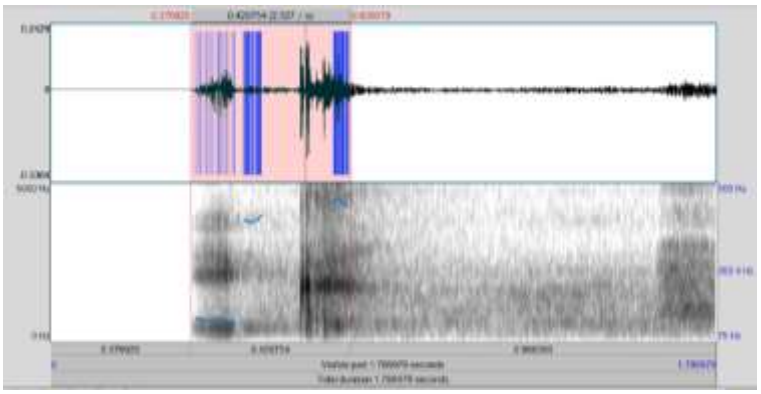


Table 1 Quantitative Analysis of /eɪ/

	British Speaker			**Speaker 1**			**Speaker 2**			**Speaker 3**			**Mean**		
Word	Pulses	Pitch	Time	Pulses	Pitch	Time	Pulses	Pitch	Time	Pulses	Pitch	Time	Pulses	Pitch	Time
ACHE	16	109.171	0.1453	32	145.51	0.2365	47	238.603	0.417	54	262.44	0.4297	44.33333	215.5177	0.361067
AGE	18	109.589	0.1636	59	152.789	0.3859	35	120.493	0.2976	35	120.446	0.3265	43	131.2427	0.336667
AIM	13	99.069	0.1259	55	152.988	0.3878	39	129.423	0.3103	40	133.034	0.3168	44.66667	138.4817	0.3383
AID	13	106.131	0.121	45	145.82	0.346	45	129.276	0.3572	43	129.263	0.3427	44.33333	134.7863	0.348633
APE	13	106.896	0.1215	33	150.239	0.279	27	126.315	0.2723	27	126.313	0.2569	29	134.289	0.2694
CAME	11	103.321	0.2433	59	152.736	0.432	37	120.574	0.3159	36	120.604	0.3078	44	131.3047	0.3519
FATE	22	133.695	0.1612	44	142.684	0.3569	33	119.494	0.3085	36	120.704	0.3335	37.66667	127.6273	0.332967
FRAME	17	174.386	0.0964	65	158.426	0.4207	38	121.678	0.3092	39	122.425	0.3244	47.33333	134.1763	0.351433
FRAIL	22	142.368	0.1661	60	144.479	0.4171	28	122.572	0.2451	28	118.499	0.2504	38.66667	128.5167	0.3042
GRAPE	28	159.392	0.1754	63	147.262	0.4459	32	120.215	0.2795	32	120.206	0.2826	42.33333	129.2277	0.336

4.1 Interpretation

Above table is showing the numeric results/values obtained through PRAAT. The table shows three different categories named as *pulse, pitch* and the *time duration* of the relevant word. It is noticed that starting from the very first word *ache* to the last word *grape*, number of pulses of each word significantly differs from the mean value of Pakistani participants. For instance, the number of pulses of the first word *ache* are 16 in British English but are 44.333 in the mean column of Pakistani participants. Similarly, the last word of the column is *grape* which has 28 pulses in native column, but the value is significantly increased in non-native column which is 42.3333.Pulses of all of the words are actually depicting the length of the words in simple words which may be changed according to the glide in the diphthong of native and non-native speakers.

Same is the case with the other categories that are very clear. For instance, pitch of the word *ache* is 109.17 in native column and number is 3215.5177 in non-native column. So is the case with the duration of all of the words. Time duration of *age* is 0.1636 seconds in native column and 0.336667 seconds in Pakistani participants' column which may be an evidence that both of the mean values are quite different in characteristics. The mean number of pulses of the word *age* are 43 in case of Pakistani speakers' pronunciation while the value is significantly lower than British token which is 18. The mean value of pitch is 131.247 in case of Pakistani speakers' pronunciation while value is 109.589 in case of the British Token. Moreover, Pakistani speakers took more time to pronounce this word which was 0.336 seconds as compared with the time (0.163s) of the British Token. The examination of another word *aim* describes that there is a uniformity to pronounce this diphthong since British token produced 13 pulses and the mean number of pulses of same word is 44.666 which is slightly higher than the previous word *Age*. The value of pitch is almost 99 for this word in case of British pronunciation while the mean value is 138.481 in case of Pakistani speakers 'pronunciation. Furthermore, the time period (0.125s) in case of British Token is lower than the Pakistani speakers' mean time duration(0.333). Such differences are prevalent also in cases of rest of the selected words whose values have been given in the Table.

The word *Aid* is also not different from the other words and deviates from the British English pronunciation. The number of pulses of this word in the British English pronunciation column is 13 while the mean value is significantly higher in the Pakistani

English pronunciation column that is 44.33. The difference is three times higher than the original value. Likewise the value of pitch concluded in case of the British English pronunciation is 106.131 and the value is pretty higher in case of the Pakistani English pronunciation that is 134.786. Similarly, the time taken, in order to pronounce the word, by the British token is 0.121 seconds while the time , taken by the Pakistan speakers, after calculating the mean value, is 0.348 seconds which is higher than the British English pronunciation. It is worth-noting that the all the three values of pulses (45,45,43) pitch(145.82,129.276,129.263) and time (0.346,0.352,0.342) respectively in case of first, second and the third speaker are very close to one another which is indicating the element of uniformity of the pronunciation.

The fifth word of the list is *ape* whose value of pulses is 13 in the column of the British English pronunciation, but the mean value of this word is much higher in the column of the Pakistani speakers which is 29. The almost double value is signifying the difference of the pronunciation. The pitch is 106.896 in case of the British English pronunciation but the mean value 134.289 is pretty higher in case of Pakistani speakers. Likewise, British token is pronounced in 121 seconds while the Pakistani speakers' time period 0.269 seconds is almost double than the British English pronunciation. The differences among these values is also not less than the first 4 words of the column. Moreover, all the three values of pulses (33,27,27) pitch(150.239.126.315,126.313,) and time (0.279,0.272,0.256) respectively in case of first, second and the third speaker are very close to one another which is indicating the element of uniformity of the pronunciation

The sixth word of the table:1 is *came* which was also pronounced differently by the Pakistani speakers as compared with the British token. The number of pulses, produced by PRAAT, in case of the British token are 11 but the mean number of pulses in case of the Pakistan speakers are 44 which is exactly 3 time higher than the British token like the fourth word *aid.* Such a big difference signifies the natural deviation in pronunciation between the British English pronunciation and the pronunciation of Punjabi, Pakistani speakers. The values of the pitch are also far different as in the British English column the value is 103.321 and the mean value of the same word in case of the Pakistani speakers is 131.304. Likewise, the time taken by the British token to pronounce this word is 0.243 seconds and the mean value of the time period is 0.351 seconds in case of the Pakistani speakers. Moreover, within three Pakistani speakers, the difference is much lesser than the difference between British token and the Pakistani

speakers. All three values of pulses (59,37,36) pitch(152.736.120.574,120.604) and time (0.432,0.315,0.307) respectively in case of first, second and the third speaker are very close to one another which is indicating the element of uniformity of the pronunciation.

The next word of the list is *fate* whose value of pulses is 22 in the column of the British English pronunciation and the mean value of this word is much higher in the column of the Pakistani speakers which is almost 38. The almost double value is signifying the variance of the pronunciation. The pitch is 133.695 in case of the British English pronunciation but the mean value 127.672 is lower in case of Pakistani speakers. Likewise, British token is pronounced in 0.161 seconds while the Pakistani speakers' time period 0.332 seconds is almost double than the British English pronunciation. The differences among these values is also not less than the first 6 words of the column. Moreover, all the three values of pulses (44,33,36) pitch(142.684.119.494,120.704) and time (0.356,0.308,0.333) respectively in case of first, second and the third speaker are very close to one another which is indicating the element of uniformity of the pronunciation.

The eighth word of the table:1 is *frame* which was also articulated differently by the Pakistani speakers as compared with the British token. The number of pulses, produced by PRAAT, in case of the British token are 17 but the mean number of pulses in case of the Pakistan speakers are 47.333 which is 3 time higher than the British token.. Such a big difference signifies the natural deviation in pronunciation between the British English pronunciation and the pronunciation of Punjabi, Pakistani speakers. The value of the pitch is also far different as in the British English column the value is 174.386 and the mean value of the same word in case of the Pakistani speakers is 134.176. Likewise, the time taken by the British token to pronounce this word is 0.096 seconds and the mean value of the time period is 0.351 seconds in case of the Pakistani speakers. Moreover, within the three Pakistani speakers the difference is much lesser than the difference between the British token and the Pakistani speakers. All the three values of pulses (65,38,39) pitch(158.426.121.678,122.425) and time (0.420,0.309,0.325) respectively in case of first, second and the third speaker are very close to one another which is indicating the element of uniformity of the pronunciation.

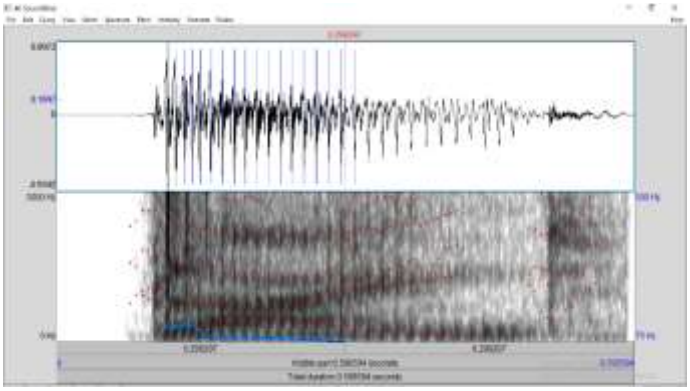
The penultimate word of the table:1 is *frail* which was also enunciated differently by the Pakistani speakers as compared with the British token. The number of pulses, produced by PRAAT, in case of the British token are 22 but the mean number

of pulses in case of the Pakistan speakers are 38.666 which is almost double than the British token.. Such a big difference signifies the natural deviation in pronunciation between the British English pronunciation and the pronunciation of Punjabi, Pakistani speakers. The values of the pitch are also distant as in the British English column the value is 142.368 and the mean value of the same word in case of the Pakistani speakers is 128.516. Likewise, the time taken by the British token to pronounce this word is 0.166 seconds and the mean value of the time period is 0.304 seconds in case of the Pakistani speakers which is once again far different. Moreover, within the three Pakistani speakers the difference is much lesser than the difference between British token and Pakistani speakers. The last two values of pulses (60,**28,28**) pitch(144.479.**122.572,118.499**) and time (0.417,**0.245,0.250**) respectively in case of the second and the third speaker are very close to one another which is indicating the element of uniformity of the pronunciation. However, the values of number of pulses, pitch and time period of the first speaker is pretty different from the other two Pakistani speakers. (The last word has already been explained)

/ aɪ /

/ aɪ / is another diphthong which glides towards I sound and is changed in Pakistani English Pronunciation. The diphthong is analyzed through PRAAT with the help of 10 sample words, and the results have been obtained in analogue signals which are spectrographs and also in the form of digital singles which are the numeric values. Following are the one out of ten spectrographic manifestations of the word *blind*.

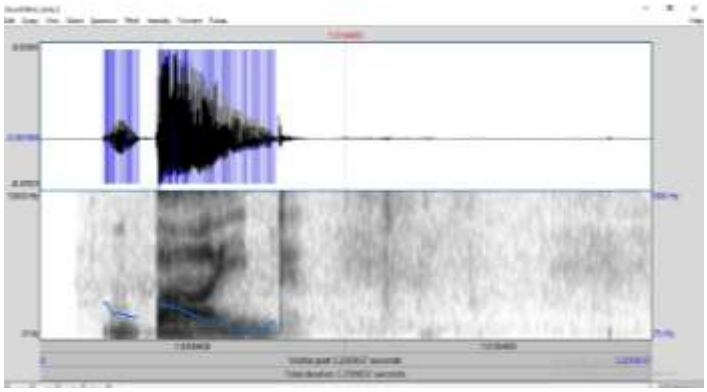
Figure 5 British English Pronunciation



The spectrographic study of the word *blind* gives the results which shows remarkable difference between the standard pronunciation and the pronunciation of Pakistani speakers. The lower frequency graph shows a glide from a straight blue line

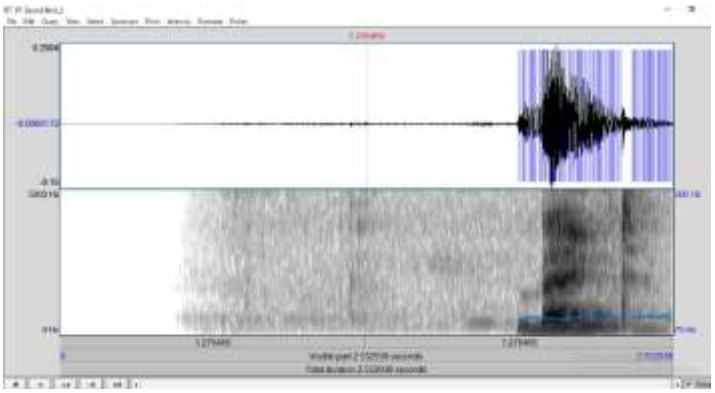
and then remains constant. On the other hand, the lower part of the graph, time taken in order to pronounce the very word is 0.598 seconds which may be due to the glide, a possible reason in the change of the length of the word because glide causes the difference of the length of the word

Figure 6 Pakistani English Pronunciation (Speaker 04)



The first, the second and the third spectrographs show 3.23, 2.55 and 1.83 seconds respectively in the pronunciation, the word *blind*. However, the frequency graphs of the three of the spectrographs are important to read on the grounds that first graph has a break which may be due to the jerk in the accent of the Pakistani speaker. The second graph has a straight line which may be a depiction of having no glide in the word. The last spectrograph contains the frequency graph which once again has a break due to a possible jerk in the accent of the Pakistani participant. The very graph has an anomalous glide which may be a possible interference of the local language according to the Kachru's norm-developing theory.

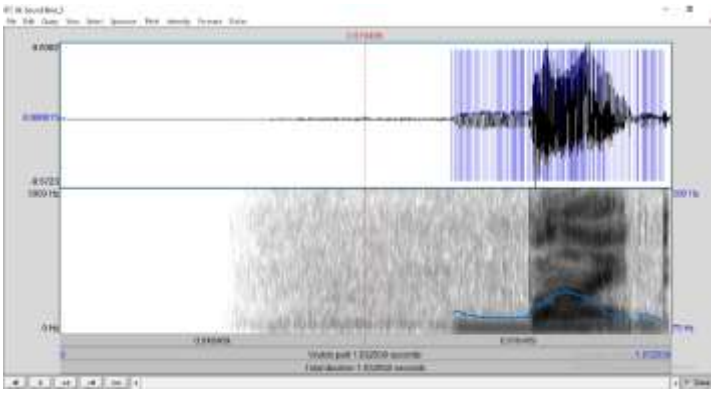
Figure 7 Pakistani English Pronunciation (Speaker 05)



The above spectrograph shows pronunciation features of the second participant. When compared with results rendered by the native speaker's pronunciation, it is found

that they differ quite significantly. The first half of the graph, showing the number of pulses a clear break in the word and the lower graph also depicts a difference in blue frequency line so is the case with time period which has already been discussed.

Figure 8 Pakistani English Pronunciation (Speaker 06)



The third participant's spectrograph is also visibly different from the native speaker's spectrograph since almost same upper half of the spectrograph, showing the uniformity in the pronunciation of the Pakistani participants. However, there is a difference of the frequency line and also the time period (1.832 seconds) which is not only different from the British speaker but also from rest of the two Pakistani participants' pronunciation. This clearly suggests that there are not any uniform patterns among the study participants despite the fact that they all come from Punjabi background.

Table 2 Quantitative Analysis of / aɪ /

	British Speaker			**Speaker 4**			**Speaker 5**			**Speaker 6**			**Mean**		
Words	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**
BIND	18	89.614	0.2082	110	134.439	0.9582	76	127.328	0.6364	90	143.999	0.6647	92	135.2553	0.7531
EYE	8	86.401	0.0953	71	132.61	0.5535	75	129.346	0.6111	42	150.627	0.3248	62.66667	137.5277	0.496467
HEIGHT	28	136.838	0.2058	60	147.113	0.6694	50	130.92	0.3941	39	159.992	0.2515	49.66667	146.0083	0.438333
HIGH	9	93.301	0.0948	67	139.667	0.4921	49	141.524	0.3459	41	168.501	0.2532	52.33333	149.8973	0.363733
BLIND	8	86.401	0.0865	58	133.029	0.4783	58	132.739	0.4479	38	163.014	0.2367	51.33333	142.9273	0.387633
KIND	17	86.479	0.1879	83	143.706	0.6057	74	131.979	0.5966	51	159.215	0.3901	69.33333	144.9667	0.5308
LIGHT	19	95.943	0.2202	91	143.432	0.6576	66	133.126	0.5267	51	157.013	0.6529	69.33333	144.5237	0.6124
MILD	24	119.715	0.2033	83	130.146	0.6519	76	127.935	0.6635	91	152.038	0.5966	83.33333	136.7063	0.637333
MIND	16	167.902	0.0967	112	129.224	0.9102	84	145.567	0.6276	60	159.604	0.3858	85.33333	144.7983	0.6412
MINED	16	167.999	0.0982	111	139.655	0.8168	58	131.351	0.4475	83	161.205	0.5168	84	144.0703	0.5937

4.2 Interpretation

It is notable that the every of the words, included in the list as sample, contains different mean value as compared to the token words. For instance, the word *blind* shows 8 number of pulses as mean value in the column of the British pronunciation, but; on the other hand, the mean value of this word, in Pakistani English pronunciation, is significantly changed which is 51.3333.Simlarly, the mean pitch of the very word is 86.401 in analyzed column of British English Pronunciation, but in Pakistani English pronunciation value is 142.9273. Moreover, the situation is the same for the length of the word which is determined by the duration of the spoken word. It is 0.0865 seconds for very word *blind* in native column and 0.387633 seconds in the mean column of Pakistani participants. Likewise, number of pulses are 18 in case of word *bind* which is far lesser than the mean number of pulses of Pakistani speakers' pronunciation which is 92. The value of pitch is 89.614 in case of the British Token but the value is again far higher in case of Pakistani Speakers' pronunciation which is 135.255. Similarly the period is 0.208 in case of the British Token and the mean value of the time period taken by Pakistani speakers is pretty higher which is 0.531. Consistently, the examination of the word *eye* also describes that the all three values of pulses (8), pitch(86.401) and the time period (0.095s) in case of the British Token is far lesser than the Pakistani speakers' value of pulses(62.666), pitch (137.527) and the time period(0.496s). The situation is not different for the other 7 words as well. To sum up, there is remark difference in the values of *Pitch*, *Pulses* and *time duration*.

The word *height* is likewise not different than other words and differs from the British English pronunciation. The number of pulses of this word in the British English pronunciation column is 28 while the mean value is significantly higher in the Pakistani English pronunciation column that is 49.666. The difference is almost double than the native value. Likewise the value of pitch, concluded in case of the British English pronunciation, is 136.838 and the value is pretty higher in case of the Pakistani English pronunciation that is almost 146. Similarly, the time taken, in order to pronounce the word, by the British token is 0.205 seconds while the time , taken by the Pakistan speakers, after calculating the mean value, is 0.438 seconds which is higher than the British English pronunciation. It is also noticeable that the all the three values of pulses (60,50,39) pitch(147.131,130.92,159.992) and time (0.669,0.394,0.251) respectively

in case of first, second and the third speaker also differ from one another which is indicating the element of non-uniformity of the pronunciation.

The following word of the list is *high* whose value of pulses is 9 in the column of the British English pronunciation and the mean value of this word is much higher in the column of the Pakistani speakers which is almost 52.333. The almost 5 times more value is signifying the huge variance of the pronunciation. The pitch is 93.301 in case of the British English pronunciation but the mean value (149.897) is also much higher in case of Pakistani speakers. Likewise, British token is pronounced in 0.094 seconds while the Pakistani speakers' time period 0.363 seconds is almost three times higher than the British English pronunciation. The differences among these values is also not less than the first 3 words of the column. Moreover, all the three values of pulses (67,49,41) pitch(139.667.141.524,168.501) and time (0.492,0.345,0.253) respectively in case of first, second and the third speaker also differ from one another which is indicating the element of non-uniformity of the pronunciation. However, these differences are not as much higher as noted in case of a comparison of the British token and the Pakistan speakers.

The fifth word of the table:2 is *blind* which was also pronounced differently by the Pakistani speakers as compared with the British token. The number of pulses, produced by PRAAT, in case of the British token are 8 but the mean number of pulses in case of the Pakistan speakers are 51.333 which is almost six times higher than the British token. Such a big difference signifies the natural deviation in pronunciation between the British English pronunciation and the pronunciation of Punjabi, Pakistani speakers. The values of the pitch are also different as in the British English column the value is 86.401 and the mean value of the same word in case of the Pakistani speakers is 142.927. Likewise, the time taken by the British token to pronounce this word is 0.086 seconds and the mean value of the time period is 0.387 seconds in case of the Pakistani speakers which is once again far different. Moreover, within the three Pakistani speakers the difference is much lesser than the difference between British token and Pakistani speakers. The first two values of pulses (**58,58,**38) pitch(**133.02.132.739**,163.014) and time (**0.478,0.447**,0.236) respectively in case of first and the second speaker are very close to each other which is indicating the element of uniformity of the pronunciation. However, the values of number of pulses, pitch and time period of the third speaker is pretty different than the other two Pakistani speakers.

The word *kind* is similarly not dissimilar than other words and differs from the British English pronunciation. The number of pulses of this word in the British English pronunciation column is 17 while the mean value is significantly higher in the Pakistani English pronunciation column that is 69.333. The difference is almost more than even three times than the native value. Likewise the value of pitch, concluded in case of the British English pronunciation, is 86.479 and the value is pretty higher in case of the Pakistani English pronunciation that is almost 144.966. Similarly, the time taken, in order to pronounce the word, by the British token is 0.187 seconds while the time , taken by the Pakistan speakers, after calculating the mean value, is 0.530 seconds which is much higher than the British English pronunciation. It is also noticeable that the all the three values of pulses (83,74,51) pitch(143.706,131.997,159.215) and time (0.605,0.596,0.390) respectively in case of first, second and the third speaker also differ from one another which is indicating the element of non-uniformity of the pronunciation.

The subsequent word of the list is *light* whose value of pulses is 19 in the column of the British English pronunciation and the mean value of this word is much higher in the column of the Pakistani speakers which is almost 69.333. Almost 5 times more value is signifying the huge variance of the pronunciation. The pitch is 95.943 in case of the British English pronunciation but the mean value (144.523) is also much higher in case of the Pakistani speakers. Likewise, the British token is pronounced in 0.220 seconds while the Pakistani speakers' time period 0.612 seconds is almost three times higher than the British English pronunciation. The differences among these values is also not less than the first six words of the column. Moreover, all the three values of pulses (91,66,51) pitch(143.432,133.126,157.031) and time (0.657,0.526,0.652) respectively in case of first, second and the third speaker also differ from one another which is indicating the element of non-uniformity of the pronunciation. However, these differences are not as much higher as noted in case of a comparison of the British token and the Pakistan speakers.

The third last word of the table:2 is *mild* which was also pronounced differently by the Pakistani speakers as compared to the British token. The number of pulses, formed by PRAAT, in case of the British token are 24 nonetheless the mean number of pulses in case of the Pakistan speakers are 83.333 which are almost four times higher than the British token.. Such a big difference signifies the likely deviation in pronunciation between the British English pronunciation and the pronunciation of

Punjabi, Pakistani speakers. The values of the pitch are also different as in the British English column the value is 119.715 and the mean value of the same word in case of the Pakistani speakers is 136.706. Likewise, the time taken by the British token to pronounce this word is 0.203 seconds and the mean value of the time period is 0.637 seconds in case of the Pakistani speakers which is once again far different. Moreover, within the three Pakistani speakers the difference is much lesser than the difference between British token and Pakistani speakers. The first two values of pulses (**83,76,**91) pitch(**130.146,127.935**,153.038) and time (**0.651,0.663**,0.596) respectively in case of first and the second speaker are very close to each other which is indicating the element of uniformity of the pronunciation. However, the values of number of pulses, pitch and time period of the third speaker are pretty different from the other two Pakistani speakers.

The second last word of the ten-word list is *mind* whose value of pulses is 16 in the column of the British English pronunciation and the mean value of this word is almost 4 times higher than the British token in the column of the Pakistani speakers which is almost 85.333. The almost four times higher value is signifying the huge variance of the articulation. Moreover, the pitch is 167.902 in case of the British English pronunciation, but the mean value (144.798) is also lower than the British token in case of the Pakistani speakers. Likewise, the British token is pronounced in 0.096 seconds while the Pakistani speakers' time period 0.641 seconds is almost six times higher than the British English pronunciation. The differences among these values is also not less than the first eight words of the list. Furthermore, all the three values of pulses (112,84,60) pitch(129.264,145.567,159.604) and time (0.910,0.627,0.385) respectively in case of first, second and the third speaker also differ from one another which is signifying the element of non-uniformity of the pronunciation. However, these variances are not as much higher as noted in case of a comparison of the British token and the Pakistan speakers.

The word *mined* is equally not different from the other words and varies from the British English pronunciation. The number of pulses of this word in the British English pronunciation column is 16 while the mean value is significantly higher in the Pakistani English pronunciation column that is 84. The difference is almost more than even five times than the native value. Likewise the value of pitch, determined in case of the British English pronunciation, is 167.999 and the value is pretty lower in case of the Pakistani English pronunciation that is almost 144.70. Similarly, the time taken, in

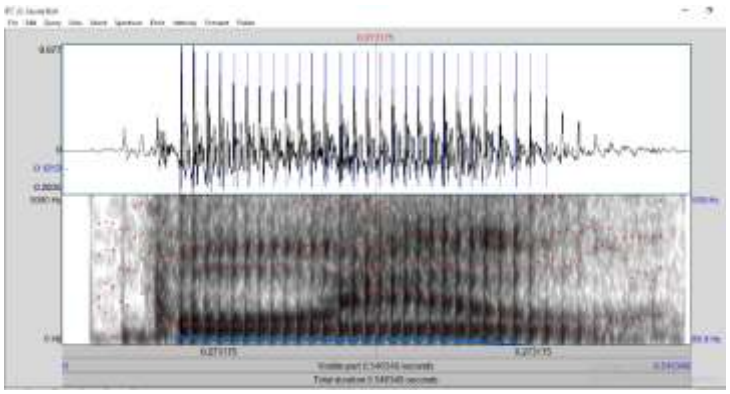
order to pronounce the word, by the British token is 0.098 seconds while the time , taken by the Pakistan speakers, after calculating the mean value, is 0.593 seconds which is much higher than the British English pronunciation. It is also noticeable that the all three values of pulses (111,58,83) pitch(139.655,131.351,161.205) and time (0.816,0.447,0.516) respectively in case of first, second and the third speaker also differ from one another which is indicating the element of non-uniformity of the pronunciation.

/ɔɪ/

The ɔɪ is the third diphthong in the list which glides towards *I* in words like *boy, toy* etc. The sound of the diphthong has been analyzed in the form spectrograph and also in the form numeric values.

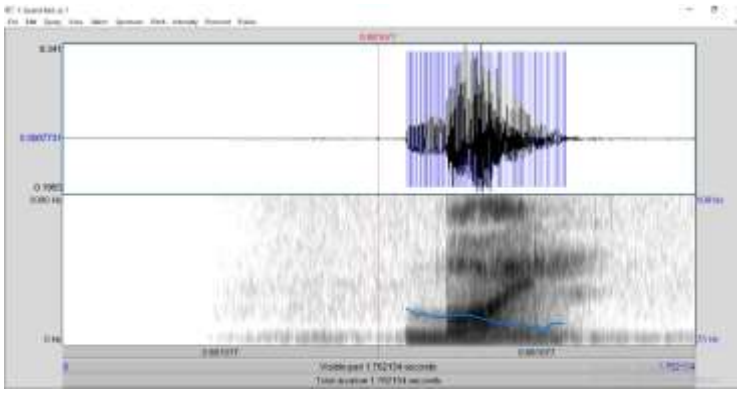
Following is spectrograph presentation of the one of the sample words *boil*

Figure 9 British English Pronunciation



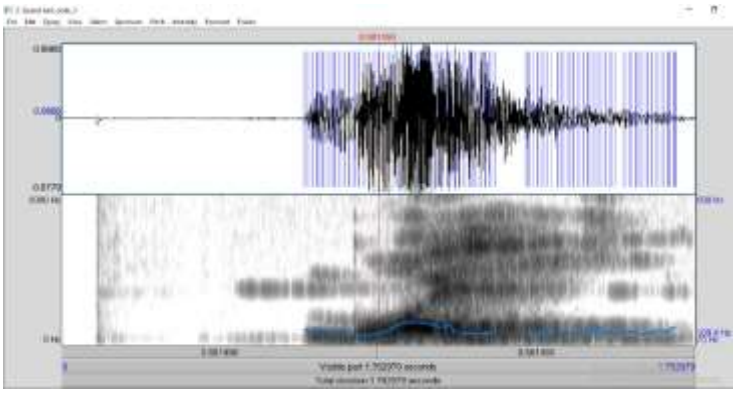
The spectrograph of the British English pronunciation shows few of the results from which time and frequency are most noticeable. The time taken in order to pronounce the word *boil* is lesser as compared to the time taken by Pakistani participants on the grounds that Pakistani participants change such diphthongs closer to a consonant sound by making it almost dentolabial sound. Such change in the diphthong by Pakistani participants is may be due to interference of the national language of Pakistan, Urdu, which brings the touch of /v/ sound in this diphthong. Such interference of the local languages has already been talked about by Braj Kachru in his Three-Circle-Model.

Figure 10 Pakistani English Pronunciation (Participant 07**)**



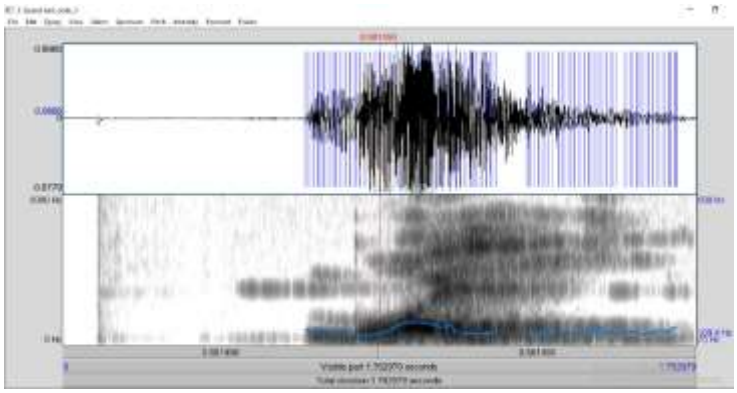
Likewise, frequency graph also has a different depiction; for example, in British English pronunciation, the movement of the frequency line seems more patronized as compared to pronunciation of the Pakistani participant. The second and the third graph show once again a break between the blue lines which may be an indicator towards the jerk of the accent.

Figure 11 Pakistani English Pronunciation (Participant 08)



The above graph, containing the features of the second Pakistani participant's pronunciation, shows different results as compared with the spectrograph, containing the features of the British pronunciation owing to the area of the pulses in upper half which has three breaks and the lower half where blue frequency line's pattern is the different one as compared with the British pronunciation graph.

Figure 12 Pakistani English Pronunciation (Participant 09)



The notable phenomenon is the sameness of almost all of the features of the second participant's graph with the following graph which contains acoustic features of the third participant. It asserts the message of uniformity, the way two of the participants pronounced the word *boil.*

Table 3 Quantitative Analysis of /ɔɪ/

	British Speaker			Speaker 7			Speaker 8			Speaker 9			Mean		
Words	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**
BOIL	28	86.66	0.3225	65	145.837	0.4454	62	117.156	0.5341	64	116.895	0.6317	51.66667	116.551	0.434
COIL	16	90.169	0.183	36	147.353	0.2457	138	127.928	1.1103	148	131.687	1.1981	63.33333	121.8167	0.513
COIN	25	107.859	0.2364	57	160.566	0.392	108	135.812	0.8041	125	134.688	0.9366	63.33333	134.7457	0.4775
FOIL	9	81.237	0.1831	58	151.881	0.4021	83	131.237	0.7138	63	128.555	0.5699	50	121.4517	0.433
FOIST	13	89.993	0.1475	40	140.629	0.4474	90	122.651	0.7947	93	122.504	0.8245	47.66667	117.7577	0.4632
HOIST	16	96.974	0.1586	32	143.669	0.2938	122	163.291	0.7714	113	167.145	0.696	56.66667	134.6447	0.407933
JOIN	31	130.233	0.2407	76	146.096	0.5208	98	115.539	0.9302	51	120.237	0.5036	68.33333	130.6227	0.5639
JOINT	23	134.78	0.1684	74	147.523	0.5286	80	122.291	0.7003	69	123.215	0.5825	59	134.8647	0.465767
LOIN	34	107.271	0.3168	57	151.302	0.4243	148	125.384	1.1911	101	131.612	0.7732	79.66667	127.9857	0.644067
JOIST	24	125.402	0.1939	58	144.524	0.4387	89	131.885	0.73	66	137.982	0.5208	57	133.937	0.4542

4.3 Interpretation

Through PRAAT, when digital values were obtained, it was noted that there was visible difference between the mean values of British English Pronunciation and the Pakistani English Pronunciation in term of number of pulses, pitch and time period. For instance, the analysis of the table asserts that the word *boil* has given 28 number of the mean pulses in British English pronunciation and value is 64 in mean column of Pakistani English pronunciation. Likewise, value of pitch is 86.66 in native column and 116.895 in mean column of non-native speaker. Furthermore, time taken by native speaker is 0.3225 seconds for the very word and 0.434 seconds in non-native column.

Similarly, the investigation of the word *coil* also describes that the all three values of pulses (16), pitch(90.169) and the time period (0.183s) in case of the British Token is far lesser than the Pakistani speakers' mean values of pulses(148), pitch (131.68) and the time period(0.513s).The same phenomena is prevalent also for the values of word coin., the investigation of the word *coin* explains that the all three values of pulses (25), pitch(107.859) and the time period (0.236s) in case of the British Token is far lesser than the Pakistani speakers' mean values of pulses(63.333), pitch (134.745) and the time period(0.477s).

The word *coin,* at the third number, is equally not different from the other words and varies from the British English pronunciation. The number of pulses of this word in the British English pronunciation column is 25 while the mean value is significantly higher in the Pakistani English pronunciation column that is 63.333. The difference is almost double than the native value. Likewise the value of pitch, concluded in case of the British English pronunciation, is 107.859, and the value is pretty higher in case of the Pakistani English pronunciation that is almost 134.745. Similarly, the time taken, in order to pronounce the word, by the British token is 0.236 seconds while the time , taken by the Pakistan speakers, after calculating the mean value, is 0.477 seconds which is higher than the British English pronunciation. It is also noticeable that the all three values of pulses (57,108,125) pitch(160.566,135.812,134.688) and time (0.392,0.804,0.936) respectively in case of first, second and the third speaker also differ from one another which is indicating the element of non-uniformity of the pronunciation. However, the pronunciations of the second and the third speaker seem alike on the grounds that the values of their pronunciations are very close to each other.

The next word of the list is *foil* whose value of pulses is 9 in the column of the British English pronunciation and the mean value of this word is much higher in the column of the Pakistani speakers which is almost 50. Almost 5 times more value is signifying the massive variance of the articulation. The pitch is 81.237 in case of the British English pronunciation, but the mean value (121.451) is also much higher in case of the Pakistani speakers. Likewise, British token is pronounced in 0.183 seconds while the Pakistani speakers' time period 0.433 seconds is almost three times higher than the British English pronunciation. The differences among these values is also not less than the first 3 words of the column. Moreover, all the three values of pulses (58,83,63) pitch(151.881,131.237,128.555) and time (0.402,0.713,0.569) respectively in case of first, second and the third speaker also differ from one another which is indicating the element of non-uniformity of the pronunciation. However, these differences are not as much higher as noted in case of a comparison of the British token and the Pakistan speakers.

The fourth word of the table:3 is *foist* which was also pronounced differently by the Pakistani speakers as compared to the British token. The number of pulses, formed by PRAAT, in case of the British token are 13 nevertheless the mean number of pulses in case of the Pakistan speakers are 47.666 which are almost four times than the British token.. Such a big difference signifies the likely difference of pronunciation between the British English pronunciation and the pronunciation of Punjabi, Pakistani speakers. The values of the pitch are also different as in the British English column the value is 89.993 and the mean value of the same word in case of the Pakistani speakers is 117.757. Likewise, the time taken by the British token to pronounce this word is 0.0.147 seconds and the mean value of the time period is 0.463 seconds in case of the Pakistani speakers which is once again far different. Moreover, within the three Pakistani speakers the difference is much lesser than the difference between the British token and the Pakistani speakers. The last two values of pulses (40,**90,93**) pitch(140.629**,122.651,122.504**) and time (0.0.447**,0.0.794,0.824**) respectively in case of second and the third speaker are very close to each other which is indicating the element of uniformity of the pronunciation. However, the values of number of pulses, pitch and time period of the first speaker is pretty different than the other two Pakistani speakers.

The sixth word of the ten-word list , given in table number 3, is *hoist* whose value of pulses is 16 in the column of the British English pronunciation and the mean value of this word is almost 4 times higher than the British token in the column of the

Pakistani speakers which is almost 56.666. Almost four times higher value is signifying the huge variance of the articulation. In addition, the pitch is 96.974 in case of the British English pronunciation but the mean value (134.644) is much higher than the British token in case of the Pakistani speakers. Likewise, the British token is pronounced in 0.158 seconds while the Pakistani speakers' time period 0.407 seconds is almost four times higher than the British English pronunciation. The differences among these values is also not less than the first five words of the list. To add up, all the three values of pulses (32,122,113) pitch(143.669,163.291,167.145) and time (0.293,0.771,0.696) respectively in case of first, second and the third speaker also differ from one another which is signifying the element of non-uniformity of the pronunciation. However, these variances are not as much higher as noted in case of a comparison of the British token and the Pakistan speakers.

Likewise, the word *join* is not dissimilar from the other words and varies from the British English pronunciation. The number of pulses of this word in the British English pronunciation column is 31 while the mean value is significantly higher in the Pakistani English pronunciation column that is 68.333. The difference is almost two times higher than the native value. However, the value of pitch, calculated in case of the British English pronunciation, is 130.233, and the value is much closer in case of the Pakistani English pronunciation that is almost 130.622. On the other hand, the time taken, in order to pronounce the word, by the British token is 0.240 seconds while the time , taken by the Pakistan speakers, after calculating the mean value, is 0.563 seconds which is much higher than the British English pronunciation. It is also noticeable that the all the three values of pulses (76,98,51) pitch(146.096,115.539,120.237) and time (0.520,0.930,0.503) respectively in case of first, second and the third speaker also differ from one another which is indicating the element of non-uniformity of the pronunciation. However, these differences are much lesser as compared with the former analysis.

The third last word of the ten-word list, given in the table:3, is *joint* which was also articulated in a different way by the Pakistani speakers as compared with the British token. The number of pulses, formed by PRAAT, in case of the British token, are 23 even so, the mean number of pulses in case of the Pakistan speakers are 59 which are almost three times of the British token. Such a big difference signifies the likely difference of pronunciation between the British English pronunciation and the pronunciation of Punjabi, Pakistani speakers. The values of the pitch, however, is not

much diverse as in the British English column the value is 134.78, and the mean value of the same word in case of the Pakistani speakers is 134.864. Similarly, the time taken by the British token to pronounce this word is 0.168 seconds and the mean value of the time period is 0.465 seconds in case of the Pakistani speakers which is once again far different. Moreover, within the three Pakistani speakers the difference is much lesser than the difference between British token and Pakistani speakers. The first two values of pulses (**74,80,**69), the second and the third value of pitch(147.523**,122.291,123.215**) and the first and third value of time (**0.528,0.700**,0.582) are very close to each other which is indicating the element of uniformity of the pronunciation. However, rest of the values are different from on another nonetheless these differences are not as high as noted in the comparison of the British and the Pakistani speakers' pronunciations.

The ninth word of the ten-word list, given in the table number 3 is *lion* whose value of pulses is 34 in the column of the British English pronunciation and the mean value of this word is almost three times higher than the British token in the column of the Pakistani speakers which is 79.666. Almost three times higher value is indicating the enormous variance of the articulation. Besides, the pitch is 107.271 in case of the British English pronunciation, but the mean value (127.985) is also higher than the British token in case of the Pakistani speakers. Likewise, the British token is pronounced in 0.316 seconds while the Pakistani speakers' time period 0.644 seconds is almost double than the British English pronunciation. The differences among these values is also not less than the first eight words of the list. Moreover, all the three values of pulses (57,148,101) pitch(151.302,125.384,131.612) and time (0.424,0.191,0.773) respectively in case of first, second and the third speaker also differ from one another which signify the element of non-uniformity of the pronunciation. However, these variances somehow keep consistency and they are not as much higher as noted in case of a comparison of the British token and the Pakistan speakers.

The final word of the ten-word list, given in the table number 3, is *joist* whose value of pulses is 24 in the column of the British English pronunciation and the mean value of this word is much higher in the column of the Pakistani speakers which is 57. The almost double value is signifying the huge variance of the pronunciation. The pitch is 125.402 in case of the British English pronunciation; however, the mean value (133.937) is also slightly higher in case of the Pakistani speakers. Likewise, the British token is pronounced in 0.193 seconds while the Pakistani speakers' time period 0.454 seconds is almost three times higher than the British English pronunciation. The

differences among these values is also not less than the first nine words of the column. Additionally, all the three values of pulses (58,66,57) pitch(144.524,131.885,137.982) and time (0.438,0.73,0.520) respectively in case of first, second and the third speaker also differ from one another which is indicating the element of non-uniformity of the pronunciation. However, these differences are not as much higher as noted in case of a comparison of the British token and the Pakistan speakers.

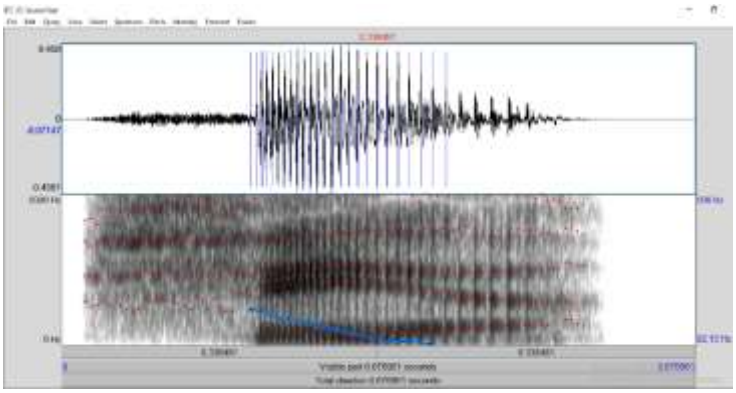
All of these differences between pronunciations of Pakistani participants and the pronunciation of the British speaker indicate the distinguish variations in the diphthongs of the Pakistani participants.

/ɪə/

/ ɪə/, /eə / and /ʊə / are called centering diphthongs as they all glide towards the /ə/ (schwa) vowel, as the symbols indicate.

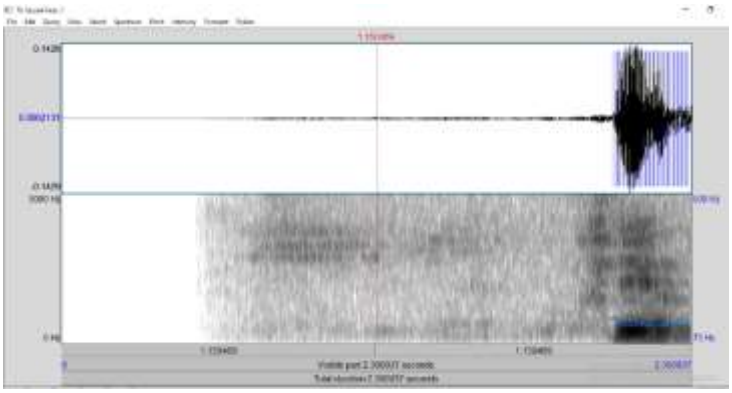
/ɪə/ sound has been examined through PRAAT and brings valuable results both in spectrographs and numeric values. Following are the spectrographic presentations of the word *fear* out of ten examined words which contain the diphthong /ɪə/ .

Figure 13 British English Pronunciation



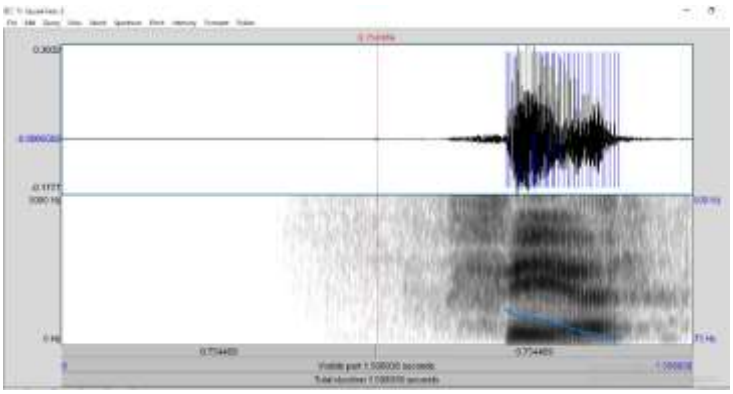
Being divided into two halves, the above spectrograph shows the number of pulses in upper half, detailed and statistical analysis of which has been elaborated subsequently. The lower half is presenting the blue, gliding line of frequency which is clearly different from the other graphs that contain features of three Pakistani participants' pronunciation.

Figure 14 Pakistani English Pronunciation (Participant 10)



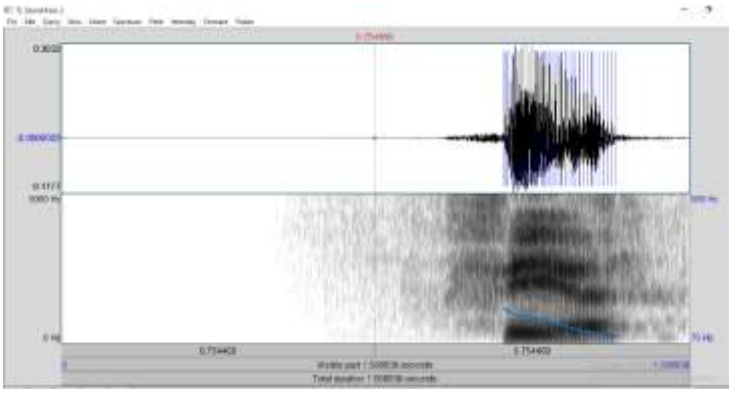
The spectrographs of Pakistani participants show 2.30, 0.75 and 0.75 seconds time period to utter the word *boil* which is the greater number than the British speakers due to aforementioned reasons. Apart from it above graph is also worth reading due to several other reasons; for instance, upper half of the spectrograph shows the number of pulses that are squeezed unlike the graph of the native speaker. Moreover the lower part of spectrograph, that is showing the frequency line, also shows the visible difference as compared with the native speaker's graph.

Figure 15 Pakistani English Pronunciation (Participant 11)



The second spectrograph's upper half out of those three participants' spectrograph also shows difference of the number of pulses the way they have been shown by PRAAT. Similarly on the second half the blue frequency line glides downward and then there seems a small straight move of the line which is significantly different from the British pronunciation graph.

Figure 16 Pakistani English Pronunciation (Participant 12)



As for as following third spectrograph is concerned, it seems similar to the preceding graph almost in all features, which asserts the uniformity of the articulation within the pronunciation of the three participants.

To sum up, the diphthong /ɪə/ gives a notable manifestation on spectrograph which Kachru talks about. Pakistani participants manipulated the diphthong and in contrast to British speakers. They took more time to pronounce this diphthong because their pronunciation was more like the word *fair* and have a more rhythmic glide as compared to British speakers. It might be due to a natural rhythm which a Pakistani Punjabi tries to enter in every word, naturally.

Table 4 Quantitative Analysis of **/ɪə/**

	British Speaker			**Speaker 10**			**Speaker 11**			**Speaker 12**			**Mean**		
Words	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**
BEARD	7	88.556	0.1702	47	130.773	0.4028	68	122.886	0.5556	67	122.886	0.5606	60.66667	125.515	0.506333
BEER	42	106.701	0.3994	55	128.14	0.4483	52	125.329	0.4256	52	125.329	0.4502	53	126.266	0.441367
CHEER	26	118.021	0.2236	35	131.963	0.3746	41	145.007	0.3461	41	145.007	0.3382	39	140.659	0.352967
CLEAR	28	129.481	0.2136	50	124.094	0.4705	39	127.989	0.3187	39	127.989	0.3839	42.66667	126.6907	0.391033
CLEARED	12	82.27	0.1485	52	126.312	0.4493	59	126.02	0.5079	59	126.02	0.5193	56.66667	126.1173	0.492167
DEAR	39	106.44	0.4028	37	122.636	0.3629	55	133.749	0.4644	55	133.749	0.4476	49	130.0447	0.424967
DEER	39	106.472	0.4073	48	130.015	0.4643	52	128.146	0.422	52	128.139	0.4207	50.66667	128.7667	0.435667
FEAR	25	119.058	0.2168	36	130.738	0.3388	36	129.886	0.2782	36	129.229	0.32	36	129.951	0.312333
HEAR	10	78.089	0.1298	62	130.852	0.534	41	119.648	0.3722	41	119.648	0.3456	48	123.3827	0.417267
HERE	23	111.279	0.2057	33	128.843	0.2915	37	131.234	0.3048	37	131.234	0.3063	35.66667	130.437	0.300867

4.4 Interpretation

Pakistani English participant manipulates the /ɪə/ diphthongs, evidences of which have been obtained from numeric data, calculated through PRAAT. The 10 words have been kept in the list as sample and the results of all of the words have depicted that Pakistani English Pronunciation is distinguish in term of diphthongs; take for example, the 8th word which is showing the different results in different columns. The word *fear* gives 25 number of pulses in British English column against 36 numbers of mean pulses in Pakistani English Pronunciation which may be the result of a natural tendency to make a word more rhythmic. The same is the case with other values; for instance, 119.058 is the pitch of the very word in native column and 129.951 in non-native column. Likewise, 0.2168 seconds was the time taken by British speaker and 0.3123 seconds is the mean value of time period which was taken by Pakistani speaker in order to pronounce the word. The situation is not different in examination of the other words. It has also been noted that in case of this diphthong there is a uniformity in the pronunciation of the Pakistani speakers. For example, in case of second word of the list *beard,* number of pulses, produced by the Pakistani Participants are not very much different from one another i.e 47, 68 and 67 respectively. It is also in case of pitches of the three of the speakers i.e 130, 122 and 122 respectively. Likewise, time period's value are very much nearer to one another (Speaker1=0.402s. Speaker II=0.555s, Speaker III=0.560s). Furthermore, the word bear's values of the British Token (Pulses= 42, Pitch= 106.701, Time =0.399s) and the mean values of Pakistani Speakers (Pulses= 53, Pitch= 126.266, Time =0.441s) also possess significant differences from one another. It has been noted that in case of this word, there is also a uniformity in the pronunciation of the Pakistani speakers. The number of pulses, produced by the Pakistani Participants are not very much different from one another i.e 55, 52 and 52 respectively. It is also in case of pitches of the speakers i.e 128, 125 and 125 respectively. Likewise, time period's value are very much nearer to one another (Speaker1=0.448s. Speaker II=0.425s, Speaker III=0.450s).

The third word of the ten-word list , given in table number 4, is *cheer* whose value of pulses is 26 in the column of the British English pronunciation and the mean value of this word is almost double than the British token in the column of the Pakistani speakers which is almost 39. Almost double value signifies the huge variance of the articulation. In addition, the pitch is 118.021 in case of the British English

pronunciation but the mean value (140.659) is much higher than the British token in case of Pakistani speakers. Likewise, the British token is pronounced in 0.223 seconds while the Pakistani speakers' time period 0.352 seconds is almost double than the British English pronunciation. The differences among these values is also not less than the first two words of the list. To add up, all the three values of pulses (35,41,41) pitch(131.963,145.007,145.007) and time (0.0.374,0.346,0.338) respectively in case of first, second and the third speaker are much closer to one another which indicate the element of uniformity of the pronunciation.

Similarly, the word *clear* also varies from the British English pronunciation in term of number of pulses, pitch and the time period. The number of pulses of this word in the British English pronunciation column is 28 while the mean value is significantly higher in the Pakistani English pronunciation column that is 42.666. The difference is almost two times than the native value. However, the value of pitch, calculated in case of the British English pronunciation, is 129.481 and the value is much closer in case of the Pakistani English pronunciation that is almost 126.690. On the other hand, the time taken, in order to pronounce the word, by the British token is 0.0.213 seconds while the time , taken by the Pakistan speakers, after calculating the mean value, is 0.391 seconds which is much higher than the British English pronunciation. It is also noticeable that the all the three values of pulses (50,39,39) pitch(124.094,127.989,127.989) and time (0.470,0.318,0.383) respectively in case of first, second and the third speaker do not differ much from one another which is indicating the element of uniformity of the pronunciation.

The fifth word of the ten-word list, given in the table:4, is *joint* which was also articulated in a different way by the Pakistani speakers as compared with the British token. The number of pulses, formed by PRAAT, in case of the British token, are12 even so, the mean number of pulses in case of the Pakistan speakers are 56.666 which are almost 4 times of the British token. Such a big difference signifies the likely variation in pronunciation between the British English pronunciation and the pronunciation of Punjabi, Pakistani speakers. The values of the pitch, also differs as in the British English column the value is 82.27 and the mean value of the same word in case of the Pakistani speakers is 126.117. Similarly, the time taken by the British token to pronounce this word is 0.148 seconds and the mean value of the time period is 0.492 seconds in case of the Pakistani speakers which is once again far different. Moreover, within the three Pakistani speakers the difference is much lesser than the difference

between British token and Pakistani speakers. The second and the third value of pulses (52**,59,**59), the second and all values of pitch(126.312**,126.02,126.02**) and the second and third value of time (**0.449,0.507**,0.519) are very close to each other which is indicating the element of uniformity of the pronunciation. The only value which is different from other two values is number of pulses produced by the first Pakistani speaker that is 52 as compared with the 59, 59 number of pulses produced by the second and the third Pakistani speakers respectively.

Likewise, the word *dear* is also not divergent from the other words and varies from the British English pronunciation. The number of pulses of this word in the British English pronunciation column is 39 while the mean value is significantly higher in the Pakistani English pronunciation column that is 49. Moreover, the value of pitch, calculated in case of the British English pronunciation, is 106.44 and the value is higher in case of the Pakistani English pronunciation that is almost 130.044. On the other hand, the time taken, in order to pronounce the word, by the British token is 0.402 seconds while the time , taken by the Pakistan speakers, after calculating the mean value, is 0.424 seconds which is slightly higher than the British English pronunciation. It is also noticeable that the all the three values of pulses (37,55,55) pitch(122.636,133.749,133.749) and time (0.362,0.464,0.447) respectively in case of first, second and the third speaker do not differ much from one another which indicate the element of uniformity of the pronunciation.

The seventh word of the ten-word list, given in the table:4, is *deer* which was similarly articulated in a different way by the Pakistani speakers as compared with the British token. The number of pulses, formed by PRAAT, in case of the British token, are 39 even so, the mean number of pulses in case of the Pakistan speakers are 50.666 which are almost double of the British token. Such a big difference signifies the likely variation in pronunciation between the British English pronunciation and the pronunciation of Punjabi, Pakistani speakers. The value of the pitch, however, is not much diverse as in the British English column the value is 106.472 and the mean value of the same word in case of the Pakistani speakers is 13.044. Similarly, the time taken by the British token to pronounce this word is 0.407 seconds and the mean value of the time period is 0.435 seconds in case of the Pakistani speakers which is once slightly different. Moreover, within the three Pakistani speakers the difference is much lesser than the difference between British token and Pakistani speakers. The second and the third value of pulses (48,**52,52**), the second and the third value of pitch(

130.015**,128.146,128.139**) and the second and third value of time (0.464**,0.422,0.420**) are very close to each other which indicate the element of uniformity of the pronunciation. (The eighth word of the list, *fear*, has already been explained)

The second last word of the ten-word list, given in the table number 4 is *hear* whose value of pulses is 10 in the column of the British English pronunciation and the mean value of this word is almost four times higher than the British token in the column of the Pakistani speakers which is 48. The almost four times higher value is indicating the enormous variance of the articulation. Also, the pitch is 76.089 in case of the British English pronunciation but the mean value (123.382) is also higher than the British token in case of Pakistani speakers. Likewise, the British token is pronounced in 0.129 seconds while the Pakistani speakers' time period 0.417 seconds is almost three times higher than the British English pronunciation. The differences among these values is also not less than the first eight words of the list. Moreover, all the three values of pulses (62,41,41) pitch(130.852,119.648,119.648) and time (0.534,0.372,0.345) respectively in case of first, second and the third speaker do not differ from one another which signify the element of uniformity of the pronunciation.

Likewise, the word *here* also varies from the British English pronunciation in term of number of pulses, pitch and the time period. The number of pulses of this word in the British English pronunciation column is 23 while the mean value is significantly higher in the Pakistani English pronunciation column that is 35.666. Moreover, the value of pitch, calculated in case of the British English pronunciation, is 111.279 and the value is also different in case of the Pakistani English pronunciation that is almost 130.437. On the other hand, the time taken, in order to pronounce the word, by the British token is 0.205 seconds while the time , taken by the Pakistan speakers, after calculating the mean value, is 0.300 seconds which is much higher than the British English pronunciation. It is also noticeable that the all the three values of pulses (33,37,37) pitch(128.843,131.234,131.234) and time (0.291,0.304,0.306) respectively in case of first, second and the third speaker do not differ much from one another which indicate the element of uniformity of the pronunciation.

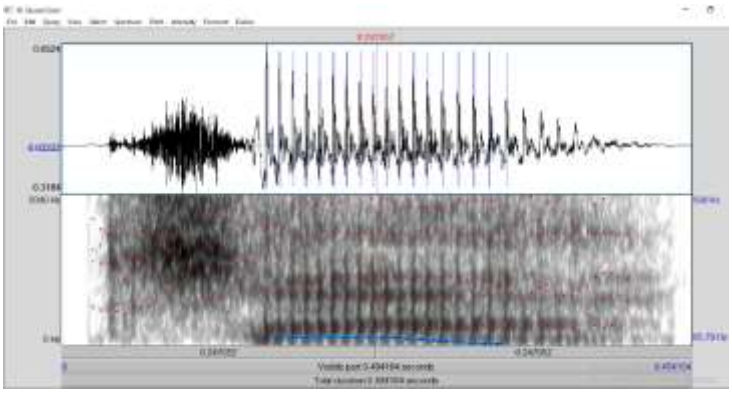
This is what Kachru talks about and asserts that unlike norm-dependent countries, in expanding circle, the countries in outer circle are considered norm-developing. In norm-dependent circle, rules are already set by the countries that have English as their first and may be mother tongue like England, Australia, and Canada etc. The countries like China and Japan, where English has no more existence outside

the classrooms, seem logical when they are advised by the aforementioned countries in the inner circle when it comes to rules related to grammar, pronunciation etc. But as far as the countries in expanding circle, like Pakistan and India, are concerned, they develop and manipulate the rules at their own. However, these changings and variations have some sound reasons and logics as it has been talked about the very word *fear* through PRAAT.

/eə/

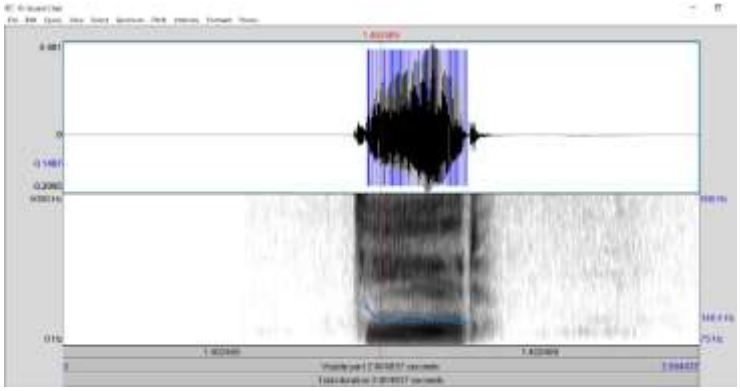
/eə/ is another diphthong which moves to schwa sounds and the scientific results of 10 samples haven been obtained in the form of spectrographs and numeric values. Following are the spectrographic manifestation of one of the sample words *chair*; however rest of the nine words' spectrographs have been kept in appendix.

Figure 17 British English Pronunciation



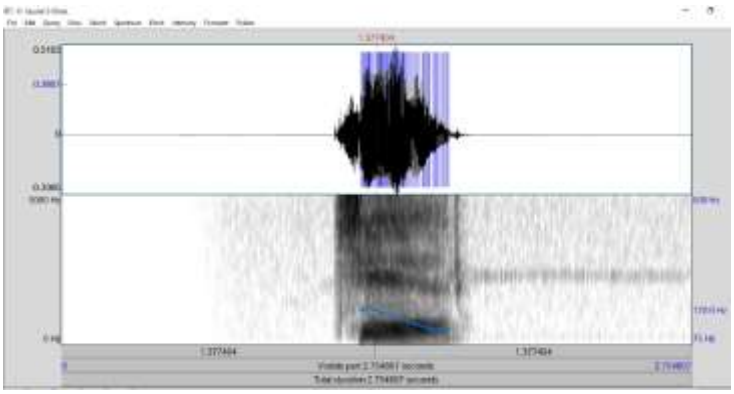
The above spectrograph shows the acoustic features of the pronunciation of the British token and is divided into two halves horizontally. The upper half is related to number of pulses while the lower half is about the frequency and is also more worthy in this spectrograph owing to the frequency and the time period. The blue frequency line goes straight for almost half of its length and then glides downward and its value decreases. The time taken, in order to produce this word is also worth noting that is 0.494 seconds.

Figure 18 Pakistani English Pronunciation (Speaker 13)



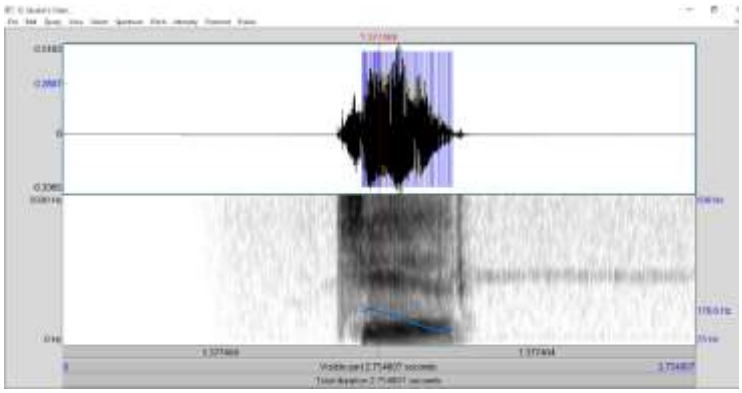
On the spectrograph of the British English pronunciation, the frequency line is gradually gliding downwards almost at the end of the word, but this glide is lesser as compared to the rest of the three spectrographs that belong to Pakistani participants. Moreover, there is also a remarkable difference between British pronunciation spectrograph and the above spectrograph in term of the time to pronounce the word. To illustrate, in the above spectrograph number of pulses are squeezed and frequency line shows different pattern from the British pronunciation graph

Figure 19 Pakistani English Pronunciation (Speaker 14)



The above spectrograph belongs to the second participant whose pronunciation's features seem similar to the first participant; however, there is still minor difference in the upper half where number of pulses have been shown. As for as lower half is concerned, it is also bit changed from the preceding spectrograph. The frequency line is more gliding in this half as compare to first one whose frequency line is almost straight.

Figure 20 Pakistani English Pronunciation (Speaker 15)



The above spectrograph is almost similar to the second spectrograph which means there features are alike. It shows the uniformity within the three participants' pronunciation, but difference from the British pronunciation.

The British speakers often stress upon the consonant sounds unlike Pakistani speakers. Changing the stress pattern may cause the changing of the way diphthongs are pronounced. The word, *chair* is pronounced by the British speakers by stressing upon the "ch" sound. On the other hand, when the same word is pronounced by the Pakistani speakers the stress level seems changed, which further changes the pronunciation of the diphthong. In short, such variations cause change of acoustic features on spectrograph from which number of pulses, frequency and time is the most important.

Table 5 Quantitative Analysis of /eə/

	British Speaker			Speaker 13			Speaker 14			Speaker 15			Mean		
Words	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**
BARE	17	108.852	0.1605	79	147.993	0.5425	73	144.364	0.5158	73	144.364	0.5216	75	145.5737	0.526633
BEAR	18	108.935	108.935	58	149.136	0.4077	58	149.136	0.3982	57	123.395	0.391	57.66667	140.5557	0.398967
CARE	15	85.619	0.1891	67	137.046	0.5082	67	130.978	0.534	68	130.966	0.5198	67.33333	132.9967	0.520667
CHAIR	18	90.595	0.1903	65	146.408	0.4613	57	144.882	0.4673	57	144.882	0.5293	59.66667	145.3907	0.485967
HAIR	14	85.536	0.1895	93	141.342	0.7168	55	142.317	0.415	55	142.317	0.3948	67.66667	141.992	0.508867
HARE	14	85.19	0.1709	90	138.743	0.6595	57	138.945	0.4134	57	138.939	0.4134	68	138.8757	0.495433
HEIR	23	127.923	0.1802	70	144.677	0.5025	46	134.489	0.3481	46	134.489	0.3588	54	137.885	0.403133
LAIR	26	124.927	0.2126	84	139.312	0.6	81	137.234	0.5959	81	137.234	0.5959	82	137.9267	0.597267
LAIRD	32	122.877	0.2589	83	133.667	0.6194	87	134.38	0.651	87	134.375	0.6462	85.66667	134.1407	0.638867
PAIR	8	91.564	0.122	91	143.943	0.6635	53	149.529	0.3897	52	149.618	0.3792	65.33333	147.6967	0.477467

4.5 Interpretation

The diphthong **/eə/** has been analyzed through PRAAT with the help of 10 selected words. The results of all of the words are notable and worth concluding for the research. For instance, the word *chair* showed the 18 number of pulses in British English Pronunciation Column and the number was 59.6667 when Pakistani English Pronunciation sample was experimented through PRAAT. Similarly, pitch of the same word 90.595 was in case of British pronunciation and 135.3907 in Pakistani pronunciation. The most important which was time period which determined the length of the word also showed the same result. British pronunciation took 0.1903 seconds in order to pronounce the word *chair* and the mean value of the same value of Pakistani participants remained 0.485967 seconds which was a great difference. Likewise, the investigation of the word *bare* also concludes that the all three values of pulses (17), pitch(108.852) and the time period (0.160s) in case of the British Token is far lesser than the Pakistani speakers' mean values of pulses(75), pitch (145.573) and the time period(0.526s). Constantly, situation was same in case of word *bear*. It also describes that the all three values of pulses (18), pitch(108.935) and the time period (108.935s) in case of the British Token is far different than the Pakistani speakers' mean values of pulses(57.666), pitch (140.555) and the time period(0.398s).The result was same for other 9 sample words.

The second word of the table number 5 is *bear* which was likewise pronounced differently by the Pakistani speakers as compared to the British token. The number of pulses, formed by PRAAT, in case of the British token are 18 nonetheless the mean number of pulses in case of the Pakistan speakers are 57.666 which are almost three times than the British token.. Such a big difference signifies the likely deviation in pronunciation between the British English pronunciation and the pronunciation of Punjabi, Pakistani speakers. The values of the pitch are also different as in the British English column the value is 108.935 and the mean value of the same word in case of the Pakistani speakers is 140.555. Likewise, the time taken by the British token to pronounce this word is 0.108.935 seconds and the mean value of the time period is 0.398 seconds in case of the Pakistani speakers which is once again far different. Moreover, within the three Pakistani speakers the difference is much lesser than the difference between British token and Pakistani speakers. The first two values of pulses (**58,58,**57) pitch(**149.136,149.136**,123.395) and time (0.**407,0.398**,0.391) respectively

in case of first and the second speaker are very close to each other which is indicating the element of uniformity of the pronunciation. However, the values of number of pulses, pitch and time period of the third speaker is pretty different than the other two Pakistani speakers.

The third word of the list is *care* whose value of pulses is 15 in the column of the British English pronunciation and the mean value of this word is much higher in the column of the Pakistani speakers which is 67.333. The almost five times value signifies the difference of the pronunciation. The pitch is 85.619 in case of the British English pronunciation but the mean value 132.996 is pretty higher in case of Pakistani speakers. Likewise, British token is pronounced in 0.189 seconds while the Pakistani speakers' time period 0.520 seconds is almost four times higher than the British English pronunciation. The differences among these values is also not less than the first two words of the column. Moreover, all the three values of pulses (67,67,68) pitch(137.046,130.978,130.966) and time (0.508,0.534,0519) respectively in case of first, second and the third speaker are very close to one another which indicates the element of uniformity in pronunciation. (The fourth word *chair* has already been described)

The fifth word of the ten-word list, given in the table:5 is *hair* which was, in same way, pronounced differently by the Pakistani speakers as compared with the British token. The number of pulses, produced by PRAAT, in case of the British token are 14 but the mean number of pulses in case of the Pakistan speakers are 67.666 which is almost five time higher than the British token.. Such a big difference signifies the natural deviation in pronunciation between the British English pronunciation and the pronunciation of Punjabi, Pakistani speakers. The values of the pitch are also far different as in the British English column the value is 85.536 and the mean value of the same word in case of the Pakistani speakers is 141.992. Likewise, the time taken by the British token to pronounce this word is 0.189 seconds and the mean value of the time period is 0508 seconds in case of the Pakistani speakers. Moreover, within the three Pakistani speakers difference is much lesser than the difference between British token and Pakistani speakers. All the three values of pulses (93,55,55) pitch(141.342.142.317,1442.317) and time (0.716,0.415,0.394) respectively in case of first, second and the third speaker are very close to one another which is indicating the element of uniformity of the pronunciation.

The succeeding word of the list is *hare* whose value of pulses is 14 in the column of the British English pronunciation and the mean value of this word is much higher in

the column of the Pakistani speakers which is almost 68. The almost five times higher value is signifying the variance of the pronunciation. The pitch is 85.19 in case of the British English pronunciation but the mean value 138.875 is much higher in case of Pakistani speakers. Likewise, British token is pronounced in 0.170 seconds while the Pakistani speakers' time period 0.68 seconds is almost double than the British English pronunciation. The differences among these values is also not less than the first five words of the column. Moreover, all the three values of pulses (90,57,57) pitch(138.743.138.945,138.939) and time (0.659,0.413,0.413) respectively in case of first, second and the third speaker are very close to one another which indicate the element of uniformity of the pronunciation.

The seventh word of the table:5 is *heir* which was articulated differently by the Pakistani speakers as compared with the pronunciation of the British token. The number of pulses, produced by PRAAT, in case of the British token are 23 but the mean number of pulses in case of the Pakistan speakers are 54 which is 3 time higher than the British token.. Such a big difference signifies the likely deviation in pronunciation between the British English pronunciation and the pronunciation of Punjabi, Pakistani speakers. The values of the pitch are also far different as in the British English column the value is 127.923 and the mean value of the same word in case of the Pakistani speakers is 137.885. Likewise, the time taken by the British token to pronounce this word is 0.502 seconds and the mean value of the time period is 0.403 seconds in case of the Pakistani speakers. Moreover, within the three Pakistani speakers the difference is much lesser than the difference between British token and Pakistani speakers. All the three values of pulses (70,46,46) pitch(144.677,134.489,134.489) and time (0.502,0.348,0.358) respectively in case of first, second and the third speaker are very close to one another which is indicating the element of uniformity of the pronunciation.

The third last word of the table number 1 is *lair* which was enunciated differently by the Pakistani speakers as compared with the British token. The number of pulses, produced by PRAAT, in case of the British token are 26 but the mean number of pulses in case of the Pakistan speakers are 82 which is almost four times higher than the British token.. Such a big difference signifies the natural deviation in pronunciation between the British English pronunciation and the pronunciation of Punjabi, Pakistani speakers. The values of the pitch are also distant as in the British English column the value is 124.927 and the mean value of the same word in case of the Pakistani speakers is 137.926. Likewise, the time taken by the British token to pronounce this word is

0.212 seconds and the mean value of the time period is 0.597 seconds in case of the Pakistani speakers which is once again far different. Moreover, within the three Pakistani speakers the difference is much lesser than the difference between British token and Pakistani speakers. The last two values of pulses (84,**81,81**) pitch(139.312,**137.324,137.324**) and time (0.0.60,**0.595,0.595**) respectively in case of second and the third speaker are very close to one another which is indicating the element of uniformity of the pronunciation. However, the values of number of pulses, pitch and time period of the first speaker are also not very different than the other two Pakistani speakers.

Likewise, the penultimate word of the table number 5, *join,* is not dissimilar from other words and varies from the British English pronunciation. The number of pulses of this word in the British English pronunciation column is 32 while the mean value is significantly higher in the Pakistani English pronunciation column that is 85.666. The difference is almost three times than the native value. Furthermore, the value of pitch, calculated in case of the British English pronunciation, is 122.877 and the value is much different in case of the Pakistani English pronunciation that is almost 134.140. On the other hand, the time taken, in order to pronounce the word, by the British token is 0.258 seconds while the time , taken by the Pakistan speakers, after calculating the mean value, is 0.638 seconds which is much higher than the British English pronunciation. It is also noticeable that the all the three values of pulses (83,87,87) pitch(133.667,134.38,134.375) and time (0.619,0.651,0.646) respectively in case of first, second and the third speaker do not much differ from one another which indicate the element of uniformity of the pronunciation. However, these differences are much lesser as compared with the former analysis.

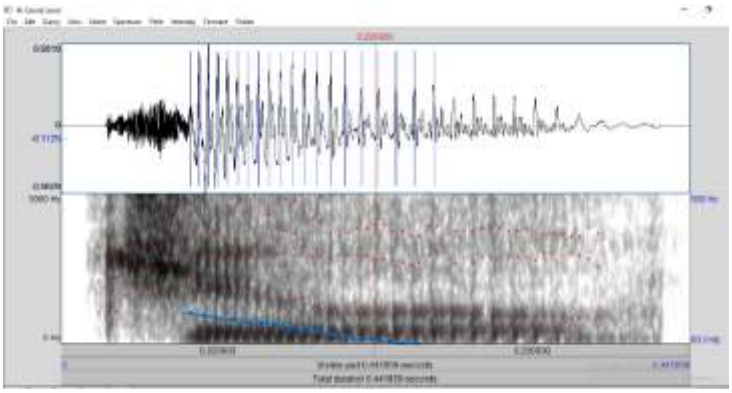
The last word of the ten-word list, given in the table:5, is *pair* which was articulated in a different way by the Pakistani speakers as compared with the pronunciation of the British token. The number of pulses, formed by PRAAT, in case of the British token, are 8 ,but the mean number of pulses in case of the Pakistan speakers are 65.333 which are almost nine times of the British token. Such a big difference signifies the a huge amount of variation in pronunciation between the British English pronunciation and the pronunciation of Punjabi, Pakistani speakers. The values of the pitch is also changed as in the British English column it is 91.564 and the mean value of the same word in case of the Pakistani speakers is 147.696. Similarly, the time taken by the British token to pronounce this word is 0.122 seconds and the mean value

of the time period is 0.477 seconds in case of the Pakistani speakers which is once again far different. Moreover, within the three Pakistani speakers the difference is much lesser than the difference between British token and Pakistani speakers. The second and the third value of pulses (**91,53,**52), the second and the third value of pitch(143.943**,149.529,149.618**) and the second and third value of time (**0.663,0.389**,0.379) are very close to each other which is indicating the element of uniformity of the pronunciation. However, rest of the values are different from on another nonetheless these differences are not as high as noted in the comparison of the British and the Pakistani speakers' pronunciations.

/ ʊə /

/ ʊə / is the third diphthong which glides to schwa sound. In order to analyze this diphthong, 10 words were taken and examined through PRAAT which gave the output in numeric value and also in the form of analogue signals that were spectrographic presentation.One of the spectrographic presentations out of the 10 spectrographs has been given below. It is of selected word *jewel*.

Figure 21 British English Pronunciation

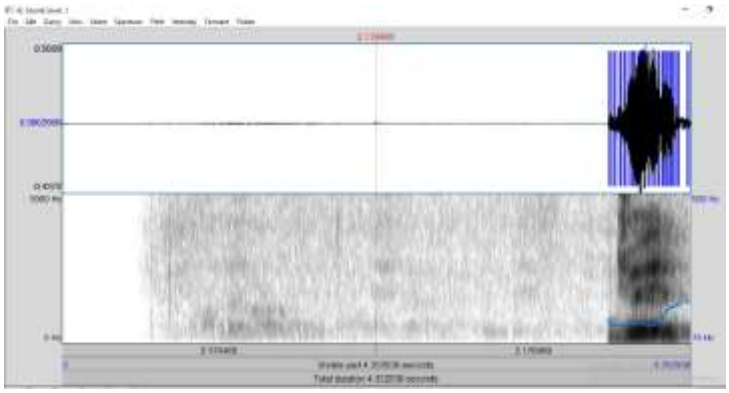


The word *jewel* is important to study on the spectrographs, on the grounds that Pakistani participants manipulated the diphthong / ʊə / when pronounced the word. The participants changed the / ʊə / sound into consonant / v / sound due to may be the interference of the Urdu transcription (جیول) of the word and monophtongized this diphthong. It seems that borrowing of English word *jewelry* into Urdu language caused to change the pronunciation of the / ʊə / sound in the English.

The first spectrograph, containing features of the British pronunciation, shows upper half where number of pulses have their own pattern that are not squeezed and keep a particular distance among them. Likewise, on the lower half there is the

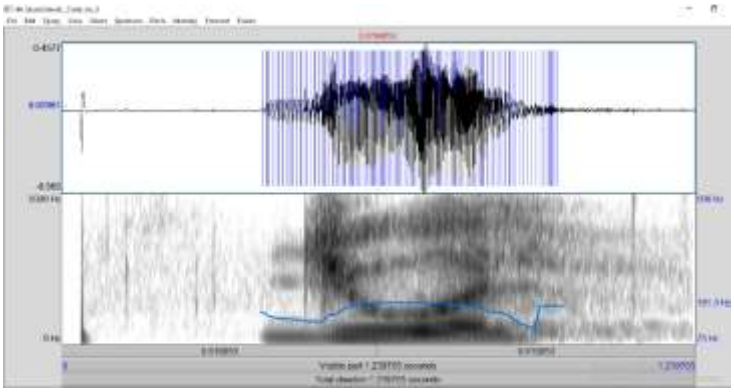
frequency line which has a continuous glide, and at the end it is extended with a short straightness.

Figure 22 Pakistani English Pronunciation (Speaker 16)



Unlike the spectrograph of the British pronunciation, the first spectrograph of the Pakistani participant is showing the different features. The number of pulses, on the upper half are squeezed and are covering the less area as compared with the preceding graph. Moreover the frequency line, instead of gliding downward is going upward.

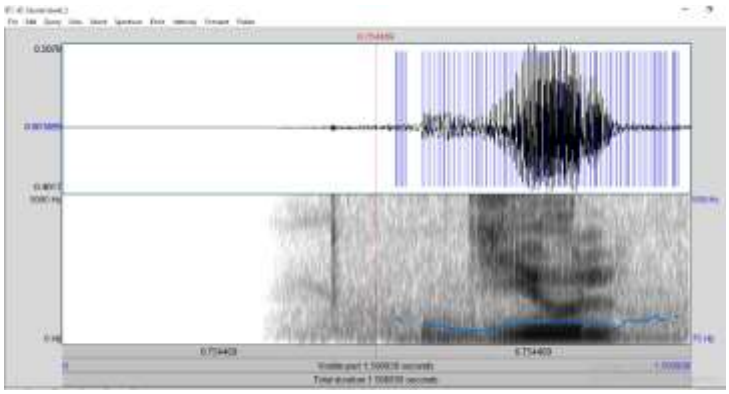
Figure 23 Pakistani English Pronunciation (Speaker 17)



Kachru asserts that language is the result of interaction of the people. The local people of any geographical region, coming in outer circle, may have the rights to manipulate it and change it according to their needs. As it is mentioned earlier, Pakistani speakers, especially people of Punjab, often change the stress upon the syllable of a word. Although the current research is not about the stress patterns; however, it is relevant in a sense that changing patterns of the stress seem changing the pronunciation of the diphthongs. Take, for example the frequency line of the spectrograph of the British English pronunciation and the spectrographs that belong to the Pakistani speakers. The difference lies upon the glides which is gradually coming downwards

and finally touches the bottom line when word ends. On the other hand, just like the first spectrograph of the Pakistani participant, the second and the third spectrographs also contain the different acoustic features. The second spectrograph of the second Pakistani participants does not match even with the first spectrograph of the first Pakistani participant; however, this difference is minor owing to the squeezed lines on the upper halves. But this difference is much more when British and Pakistani speakers' spectrograph are compared.

Figure 24 Pakistani English Pronunciation (Speaker 18)



Same is the case with the above spectrograph which is less different from second and the third two spectrographs of the first two Pakistani participants but far different than the very first spectrograph which contains acoustic features of the British pronunciation. The Detailed and more concrete analysis of these differences has been given subsequently; however, it can be said that / ʊə / sound is not only different from British pronunciation, but it also contains minor variations within the Pakistani participants' pronunciation.

Table 6 Quantitative Analysis of / ʊə /

	BRITISH SPEAKER			SPEAKER 16			SPEAKER 17			SPEAKER 18			MEAN		
Words	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**
BREWER	30	159.583	0.2011	70	144.608	0.514	74	167.758	0.4891	55	124.345	0.4791	66.33333	145.5703	0.494067
CURE	10	100.235	0.1035	44	160.479	0.3052	60	180.168	0.3547	39	128.448	0.3818	47.66667	156.365	0.347233
DORE	28	124.463	0.2221	109	170.032	0.6791	54	186.737	0.2992	52	115.582	0.9018	71.66667	157.4503	0.6267
DOUR	7	132.411	0.056	79	166.271	0.5123	46	151.81	0.3342	29	124.263	0.8854	51.33333	147.448	0.5773
DUAL	20	113.412	0.1755	74	0.5507	0.5507	69	162.67	0.453	58	122.625	0.4778	67	95.2819	0.493833
DUEL	19	112.748	0.1732	67	127.326	0.5315	99	168.236	0.6107	64	122.885	0.5517	76.66667	139.4823	0.564633
FEWER	28	138.856	0.2061	59	173.995	0.3667	57	170.048	0.3324	26	122.976	0.2589	47.33333	155.673	0.319333
FUEL	33	129.425	0.2553	61	123.977	0.5117	63	180.77	0.4127	36	132.068	0.299	53.33333	145.605	0.4078
JEWEL	20	113.082	0.174	75	142.947	0.6297	98	169.819	0.5869	83	133.107	0.6687	85.33333	148.6243	0.628433
LURE	37	150.249	0.2501	67	159.648	0.4673	59	161.199	0.5002	41	106.886	0.4966	55.66667	142.5777	0.488033

4.6 Interpretation

The 10 words were experimented through PRAAT by using 4 different voices; one was of native speaker and other of Pakistani participants' voices. After Comparing mean value of three non-native samples with Standard token words, it can be propounded that the both of them are clearly different in term of pronunciation. For instance, in case of word *brewere*, number of pulses given by PRAAT, for British English Pronunciation, are 30 and the mean value is 66.333 for Pakistani participant's pronunciation. The same is the case with the other categories of the prepared table. The value of the pitch is 159.583 in Standard English pronunciation column and 145.570 in non-native column. The most important is of the value of the time taken by the participant in order to pronounce the word which is 0.201 seconds in British English pronunciation and 0.494 seconds in Pakistani English pronunciation column. Similarly, the investigation of the word *cure* also describes that the all three values of pulses (10), pitch(100.235) and the time period (0.103s) in case of the British Token is far variant than the Pakistani speakers' mean values of pulses(47.666), pitch (156.365) and the time period(0.347s).Moreover, the analysis of the word *dore* also describes that the all three values of pulses (28), pitch(124.463) and the time period (0.221s) in case of the British Token is far different than the Pakistani speakers' mean values of pulses(71.666), pitch (157.450) and the time period(0.626s)

The third word of the ten-word list is *dore* whose value of pulses is 13 in the column of the British English pronunciation and the mean value of this word is much higher in the column of the Pakistani speakers that is 71.666. Almost six times higher value is signifying the variance of the pronunciation well. The pitch is also noticeable which is 124.463 in case of the British English pronunciation, but the mean value 157.450 is pretty higher in case of Pakistani speakers. Likewise, British token is pronounced in 0.222 seconds while the Pakistani speakers' time period 0.626 seconds is almost three times higher than the British English pronunciation. The differences among these values is also not less than the first two words of the list. However, all the three values of pulses (109,54,52) pitch(170.032,186.737,115.582) and time (0.679,0.299,0.901) respectively in case of first, second and the third speaker are not very close to one another which is indicating the element of non-uniformity of the pronunciation. Nonetheless, the variance within the three Pakistani speakers are not as

much higher as it is noticed in case of the comparison of the British token and the mean values of Pakistani speakers in term of pulses, pitch and time period.

The next word of the ten-word list, given in the table:6 is *dour* which was also pronounced differently by the Pakistani speakers as compared with the British token. The number of pulses, produced by PRAAT, in case of the British token are7 but the mean number of pulses in case of the Pakistan speakers are 51.333 which are almost 7 times higher than the British token. Such a big difference signifies the natural deviation in pronunciation between the British English pronunciation and the pronunciation of Punjabi, Pakistani speakers. The values of the pitch are also far different as in the British English column the value is 132.411 and the mean value of the same word in case of the Pakistani speakers is 147.448. Likewise, the time taken by the British token to pronounce this word is 0.0.056 seconds and the mean value of the time period is 0.577 seconds in case of the Pakistani speakers. Moreover, within the three Pakistani speakers difference is much lesser than the difference between British token and Pakistani speakers. All the three values of pulses (79,46,29) pitch(166.271,151.81,124.263) and time (0.512,0.334,0.885) respectively in case of first, second and the third speaker are not very close to one another which is indicating the element of uniformity of the pronunciation. However, these variations do not differ much like the previous analysis.

The fifth word of the ten-word list is *dual* whose value of pulses is 20 in the column of the British English pronunciation and the mean value of this word is much higher in the column of the Pakistani speakers which is almost 67. Almost three times higher value is signifying the variance of the pronunciation well. Moreover, the pitch is 113.412 in case of the British English pronunciation but the mean value 147.748 is much higher in case of Pakistani speakers. Likewise, British token is pronounced in 0.175 seconds while the Pakistani speakers' time period 0.493 seconds is almost three times higher than the British English pronunciation. The differences among these values is also not less than the first 6 words of the column. Moreover, all the three values of pulses (74,69,58) pitch(0.550,162.67,122.625) and time (0.0.550,0.453,0.477) respectively in case of first, second and the third speaker are not very close to one another which is indicating the element of non- uniformity of the pronunciation.

The sixth word of the table number 6 is *duel* which was also articulated in a different way by the Pakistani speakers as compared with the British token. The number of pulses, produced by PRAAT, in case of the British token are 19 but the mean number

of pulses in case of the Pakistan speakers are 76.666 which is almost 3 time higher than the British token.. Such a huge difference signifies the natural deviation in pronunciation between the British English pronunciation and the pronunciation of Punjabi, Pakistani speakers well. The values of the pitch are also far different as in the British English column the value is 112.748 and the mean value of the same word in case of the Pakistani speakers is 139.482. Likewise, the time taken by the British token to pronounce this word is 0.173 seconds and the mean value of the time period is 0.564 seconds in case of the Pakistani speakers. Moreover, within the three Pakistani speakers the difference is much lesser than the difference between British token and Pakistani speakers. The first and the third value of pulses (67,99,64), the first and the third value of pitch(127.326,168.236,122.885) and also the first and the third value of time (0.531,0.610,0.551) are very close to one another which is indicating the element of uniformity of the pronunciation. However the pronunciation of the second Pakistani speaker is found different in each case. Nonetheless, this difference is much lower as compared with the previous analysis.

The seventh word of the table number 6 is *fewer* which was enunciated in a different by the Pakistani speakers as compared with the British token. The number of pulses, produced by PRAAT, in case of the British token are 28 but the mean number of pulses in case of the Pakistan speakers are 47.333 which is almost double than the British token.. Such a big difference signifies the natural deviation in pronunciation between the British English pronunciation and the pronunciation of Punjabi, Pakistani speakers. The values of the pitch are also distant as in the British English column the value is 138.856 and the mean value of the same word in case of the Pakistani speakers is 155.673. Likewise, the time taken by the British token to pronounce this word is 0.206 seconds and the mean value of the time period is 0.319 seconds in case of the Pakistani speakers which is once again far different. Moreover, within the three Pakistani speakers the difference is much lesser than the difference between British token and Pakistani speakers. The first two values of pulses (**59,57**,26) pitch(**173.995.170.048**,122.976) and time (**0.366,0.332**,0.258) respectively in case of the first and the second speaker are very close to one another which is indicating the element of uniformity of the pronunciation. However, the values of number of pulses, pitch and time period of the first speaker is pretty different from the other two Pakistani speakers.

The third last word of the ten-word list, given in the table number 6 is *fuel* whose value of pulses is 33 in the column of the British English pronunciation and the mean

value of this word is much higher in the column of the Pakistani speakers that is 53.333. The nearly double value is signifying the difference of the pronunciation. The pitch is 129.425 in case of the British English pronunciation, nevertheless the mean value 145.605 is pretty higher in case of Pakistani speakers. Likewise, the British token is pronounced in 0.255 seconds on the other hand the Pakistani speakers' time period 0.407 seconds is almost double than the British English pronunciation. The differences among these values is also not less than the first seven words of the column. Moreover, all the three values of pulses (61,63,36) pitch(123.977,180.77,132.068,) and time (0.511,0.412,0.299) respectively in case of first, second and the third speaker are very close to one another which is indicating the element of uniformity of the pronunciation

The ninth word of the table number six is *jewel* which is pronounced differently by the Pakistani speakers as compared with the British token. The number of pulses, produced by PRAAT, in case of the British token are 20 but the mean number of pulses in case of the Pakistan speakers are 85.333 which is about four times higher than the British token. Such a big difference signifies the natural deviation in pronunciation between the British English pronunciation and the pronunciation of the Punjabi, Pakistani speakers. The values of the pitch are also far different as in the British English column the value is 113.082 and the mean value of the same word in case of the Pakistani speakers is 148.624. Likewise, the time taken by the British token to pronounce this word is 0.174 seconds and the mean value of the time period is 0.628 seconds in case of the Pakistani speakers. Moreover, within the three Pakistani speakers difference is much lesser than the difference between British token and Pakistani speakers. All the three values of pulses (75,98,83) pitch(142.947,169.819,133.107) and time (0.629,0.586,0.668) respectively in case of first, second and the third speaker are not very close to one another which is indicating the element of non-uniformity of the pronunciation.

The last word of the ten-word list is *lure* whose value of pulses is 37 in the column of the British English pronunciation and the mean value of this word is much higher in the column of the Pakistani speakers which is almost 56. Almost double value is signifying the variance of the pronunciation. The pitch is 150.249 in case of the British English pronunciation; on the other hand, the mean value 142.577 is lower in case of Pakistani speakers. Moreover, the British token was pronounced in 0.250 seconds while the Pakistani speakers' time period 0.488 seconds is almost double than the British English pronunciation. The differences among these values is also not less

than the first nine words of the table number six. Moreover, all the three values of pulses (67,59,41) pitch(159.648,161.199,106.886) and time (0.467,0.500,0.496) respectively in case of first, second and the third speaker are not very close to one another which is indicating the element of uniformity of the pronunciation. However, these variations are much lesser as compared with the analysis of British token versus the mean values of the three Pakistani speakers.

/əʊ/

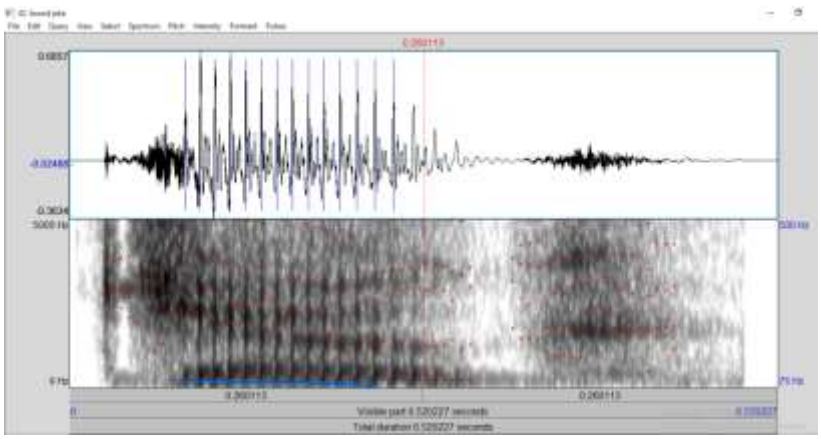
/ əʊ/ and / aʊ / are the two diphthongs which end on a glide towards / ʊ /. Therefore, as the tongue moves nearer to the upper side of the mouth, there is a rounding movement of the lips. This movement is not a big one, again as the next part of the diphthong is weak. The position of the vowel for the starting of / əʊ / is the alike as for the "schwa" vowel /ə/. The lips may be a little bit rounded in anticipation of the glide towards / ʊ /, for which there is quite a visible lip-rounding / aʊ / originates with a vowel alike to / ɑ:/ but a little more front. There is minor lip-rounding throughout the glide towards

/ ʊ /.

As for as the analysis of the /əʊ/ is concerned it has been analyzed at two level just like previous diphthongs, and it has given the researcher two sort of results; one is in the form of analogue signals i.e. spectrographs and other is digital values that are numeric values obtained with the help of the voice report.

Following are the spectrographic presentations of one of the selected words *joke*.

Figure 25 British English Pronunciation



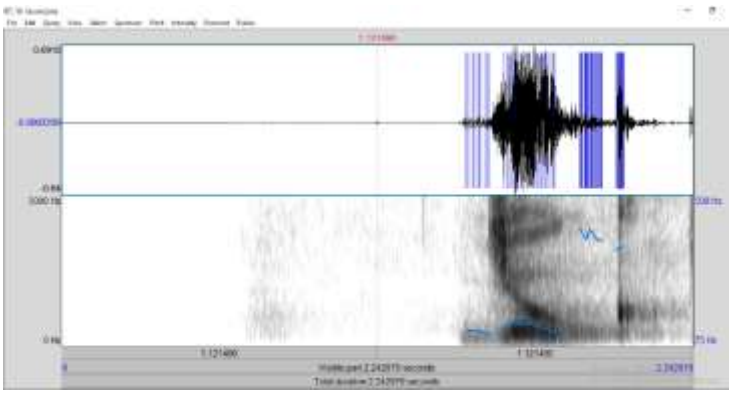
In current research, it was noted that /əʊ/ sound was not pronounced by the Pakistani speakers, the way British speakers pronounced. The /əʊ/ sound carries a

glided after /g/ sound and lips were closed in the second part of the diphthong. In contrast, Pakistani speakers did not glide and round the lips right from the beginning of the word's pronunciation.

Such changes in pronunciation are may be due to nonexistence of such sounds in the local languages; for example, in Urdu the shortest /a/ sound is like /a:/ sound in word *father*. In this ways this diphthong seems different, carrying a single sound, instead of two sounds like diphthong and pronunciation becomes /gu:/ instead of /gəʊ/. Through the lenses of Kachru, all of these variations may be seen on the spectrographs of British speakers and Pakistani speakers. There is a visible difference of the time taken by the British speaker to pronounce the word and on other hand, time taken by the Pakistani participants to utter the same word. Moreover, the difference also lies on the frequency graph which may be another support to the argument that the English of Pakistan lies in outer circle of Braj Kachru's Three Eccentric Circles.

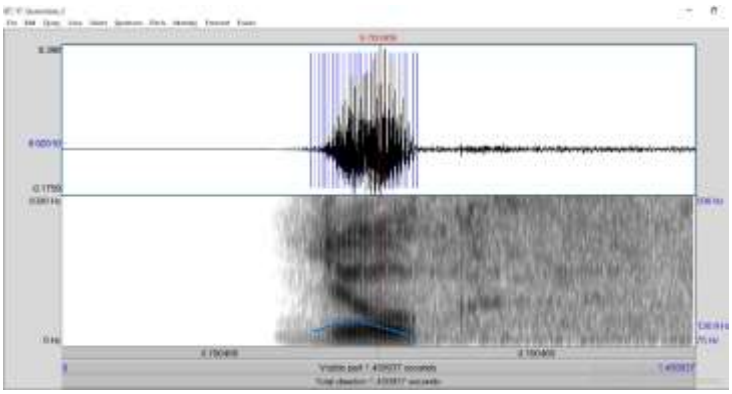
The above spectrograph, which is showing acoustic features of the British pronunciation, shows the number of pulses on the upper half and these number of pulses contain a visible difference among them which often does not present in case, if a word is pronounced by the Pakistani speaker. Moreover on the lower half there is the frequency line which is almost touching the Y-axis with the slight glide. The time (520 seconds) is also given in the bottom of the lower half of the spectrograph

Figure 26 Pakistani English Pronunciation (Participant 19)



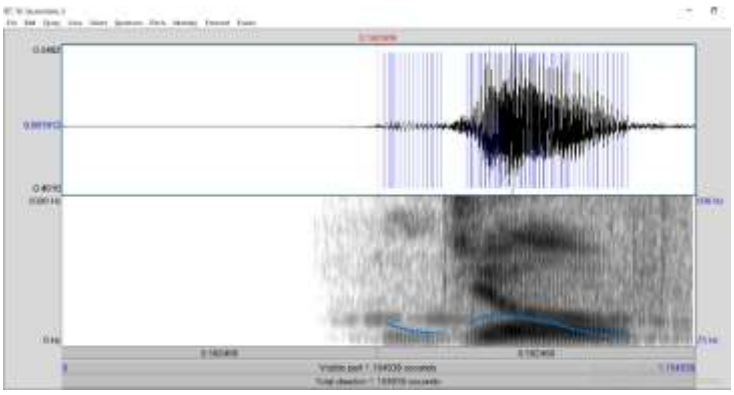
It has been frequently noted that, when it comes to the number of pulses, there are certain gaps on Pakistani participants' spectrographs. For instance, the above spectrograph's upper half shows the same pattern. As for as lower half is concerned, the frequency line is irregular and also has breaks.

Figure 27 Pakistani English Pronunciation (Participant 20)



The second spectrograph is different than the first spectrograph of the Pakistani participant. There is no pause in number of pulses; however, they are still squeezed which is one of the peculiarities of Pakistani pronunciation, as mentioned earlier. Furthermore, the frequency line is more regular than the preceding spectrograph; however, is far different than the spectrograph of the British pronunciation.

Figure 28 Pakistani English Pronunciation (Participant 21)



The third spectrograph's upper half shows the number of pulses that are unconventionally not squeezed in Pakistani Pronunciation; however, still there is a break which has frequently been noted in case of Pakistani pronunciation. The frequency line glides downward which means the value of the frequency is going down and then it is going upward after which once again it changes its direction downward. Such variations, breaks, and squeezed patterns are the particular part of the pronunciation which was pronounced by the Pakistani participants during research.

Table 7 Quantitative Analysis of **/əʊ/**

	BRITISH SPEAKER			**SPEAKER 19**			**SPEAKER 20**			**SPEAKER 21**			**MEAN**		
Words	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**
BOAST	7	105.196	0.0748	33	130.97	0.2622	27	123.742	0.4009	52	127.523	0.4182	37.33333	127.4117	0.032767
BOAT	6	86.455	0.0705	49	140.525	0.3751	54	123.7	0.495	51	119.725	0.4349	51.33333	127.9833	0.039545
BONE	15	90.632	0.1741	52	125.09	0.4243	56	123.136	0.4596	65	125.941	0.5303	57.66667	124.7223	0.042855
CHOKE	11	92.251	0.1138	48	189.151	0.5164	23	130.961	0.1883	45	143.219	0.357	38.66667	154.4437	0.032173
GLOW	15	101.648	0.1438	57	137.394	0.4129	65	128.057	0.5151	65	128.257	0.5054	62.33333	131.236	0.043436
HOME	18	88.042	0.186	40	121.072	0.3642	36	121.139	0.3543	59	135.792	0.4358	45	126.001	0.034979
HOPE	19	145.037	0.1254	64	240.495	0.3929	26	125.571	0.3102	39	134.544	0.2992	43	166.87	0.030373
JOKE	14	86.412	0.1558	73	198.636	0.5688	31	128.52	0.2607	56	131.996	0.4656	53.33333	153.0507	0.039245
KNOWS	20	171.441	0.1281	63	128.423	0.5145	55	126.004	0.4398	60	130.057	0.4702	59.33333	128.1613	0.043167
MOAN	24	109.689	0.218	60	151.164	0.4225	53	118.53	0.4549	56	127.174	0.4505	56.33333	132.2893	0.040239

4.7 Interpretation

Joke is one of the selected words and has been analyzed through PRAAT along with 9 other words. Number of pulses depicted by PRAAT, in case of British English Pronunciation, are 14 that show how long the word is, but the value is different in case of Pakistani English pronunciation which is 53.33333. Likewise, pitch is 86.412 in British English pronunciation and the value is 153.057. Furthermore, the very important entity, time taken by British token for word *joke* is 0.1558 seconds and in case of Pakistani English Pronunciation PRAAT gives the value 0.039245 seconds which is significantly changed from Standard British pronunciation.

Furthermore, the numeric and the spectrographic analysis of the word *boast* also describes that the all three values of pulses (7), pitch(105.196) and the time period (0.074s) in case of the British Token is far diverse than the Pakistani speakers' mean values of pulses(37.333), pitch (127.411.68) and the time period(0.032s).

Moreover, the numeric and the spectrographic analysis of the word *boat* also calls th;at the all three values of pulses (6), pitch(86.455) and the time period (0.070s) in case of the British Token is far diverse than the Pakistani speakers' mean values of pulses(51.333), pitch (127.983.68) and the time period(0.039s).

The third word of the ten-word list, given in the penultimate table, is *bone* whose value of pulses is 15 in the column of the British English pronunciation and the mean value of this word is much higher in the column of the Pakistani speakers that is 57.666. The almost four times higher value signifies the variance of the pronunciation well. The pitch is also noticeable which is 90.632 in case of the British English pronunciation, but the mean value 124.722 is pretty higher in case of Pakistani speakers. Likewise, British token is pronounced in 0.174 seconds while the Pakistani speakers' time period 0.042 seconds is almost three times higher than the British English pronunciation. The differences among these values is also not less than the first two words of the list. However, all the three values of pulses (52,56,65) pitch(125.09,123.136,125.941) and time (0.424,0.459,0.530) respectively in case of first, second and the third speaker are pretty close to one another which indicates the element of uniformity of the pronunciation.

The next word of the ten-word list, given in the table number 9 is *choke* which was also pronounced differently by the Pakistani speakers as compared with the British token. The number of pulses, produced by PRAAT, in case of the British token are11

but the mean number of pulses in case of the Pakistan speakers are 38.666 which are almost 3 times higher than the British token. Such a big difference signifies the natural deviation in pronunciation between the British English pronunciation and the pronunciation of Punjabi, Pakistani speakers. The values of the pitch are also far different as in the British English column the value is 92.251 and the mean value of the same word in case of the Pakistani speakers is 154.443. Likewise, the time taken by the British token to pronounce this word is 0.113 seconds and the mean value of the time period is 0032 seconds in case of the Pakistani speakers. Moreover, within the three Pakistani speakers difference is much lesser than the difference between British token and Pakistani speakers. All the three values of pulses (48,23,45) pitch(189.151,130.961,143.219) and time (0.516,0.188,0.357) respectively in case of first, second and the third speaker are not very close to one another which is indicating the element of non-uniformity of the pronunciation. However, these variations do not differ much like the previous analysis.

The fifth word of the ten-word list is *glow* whose value of pulses is15 in the column of the British English pronunciation and the mean value of this word is much higher in the column of the Pakistani speakers which is almost 62.333. Almost four times higher value signifies the variance of the pronunciation well. Moreover, the pitch is 101.648 in case of the British English pronunciation but the mean value 131.236 is much higher in case of Pakistani speakers. Likewise, British token is pronounced in 0.143 seconds while the Pakistani speakers' time period 0.434 seconds is almost four times higher than the British English pronunciation. The differences among these values is also not less than the first four words of the column. Moreover, all the three values of pulses (57,65,65) pitch(0.137.394,128.057,128.257) and time (0.412,0.515,0.505) respectively in case of first, second and the third speaker are very close to one another which is indicating the element of uniformity of the pronunciation.

The sixth word of the table number 6 is *home* which was also articulated in a different style by the Pakistani speakers as compared with the British token. The number of pulses, produced by PRAAT, in case of the British token are 18 but the mean number of pulses in case of the Pakistan speakers are 45 which is almost 2.5 time higher than the British token. Such a huge difference signifies the natural deviation in pronunciation between the British English pronunciation and the pronunciation of Punjabi, Pakistani speakers well. The values of the pitch are also far different as in the British English column the value is 88.042 and the mean value of the same word in case

of the Pakistani speakers is 126.001. Likewise, the time taken by the British token to pronounce this word is 0.186 seconds and the mean value of the time period is 0.0349 seconds in case of the Pakistani speakers. Moreover, within the three Pakistani speakers the difference is much lesser than the difference between British token and Pakistani speakers. The first and the second value of pulses (**40,36**,59), the first and the second value of pitch(**121.072,121.139**,135.792) and also the first and the first value of time (**0.392,0.310**,0.299) are very close to one another which is indicating the element of uniformity of the pronunciation. However the pronunciation of the third Pakistani speaker is found different in each case. Nonetheless, this difference is much lower as compared with the previous analysis.

The seventh word of the table number 6 is *hope* which was pronounced in a different style by the Pakistani speakers as compared to the British token. The number of pulses, produced by PRAAT, in case of the British token are 19 but the mean number of pulses in case of the Pakistan speakers are 43 which is almost two times higher than the British token. Such a big difference signifies the deviation in pronunciation between the British English pronunciation and the pronunciation of Punjabi, Pakistani speakers well. The values of the pitch are also very much different on the scores that in the British English column the value is 145.037 and the mean value of the same word in case of the Pakistani speakers is 166.67. Likewise, the time taken by the British token to pronounce this word is 0.1254 seconds and the mean value of the time period is 0.030 seconds in case of the Pakistani speakers which is once again far variant. Moreover, within the three Pakistani speakers the difference is much lesser than the difference between British token and Pakistani speakers. All the values of pulses (64,26,39) pitch(240.295,125.571,134.544) and time (0.392,0.310,0.299) respectively in case of the first the second and the third speaker are not very close to one another which is indicating the element of non-uniformity of the pronunciation. However, the values of number of pulses, pitch and time period of the speakers are not as much different as they have been noticed in case of the former analysis. (The eighth word, Joke, of the list has already been explained)

The ninth word of the ten-word list, given in the table number nine is *knows* whose value of pulses is 20 in the column of the British English pronunciation and the mean value of this word is much higher in the column of the Pakistani speakers that is 59.333. Nearly, the three times higher value differentiates the pronunciation in a clear way. The pitch is 171.444 in case of the British English pronunciation, nevertheless the

mean value 128.161 is pretty lower in case of Pakistani speakers. Likewise, the British token is pronounced in 0.128 seconds; on the other hand, the Pakistani speakers' time period 0.043 seconds is lower than the British English pronunciation. The differences among these values is also not less than the first eight words of the column. Moreover, all the three values of pulses (63,55,60) pitch(128.433,126.004,130.057) and time (0.514,0.439,0.470) respectively in case of first, second and the third speaker are very close to one another which is indicating the element of uniformity of the pronunciation

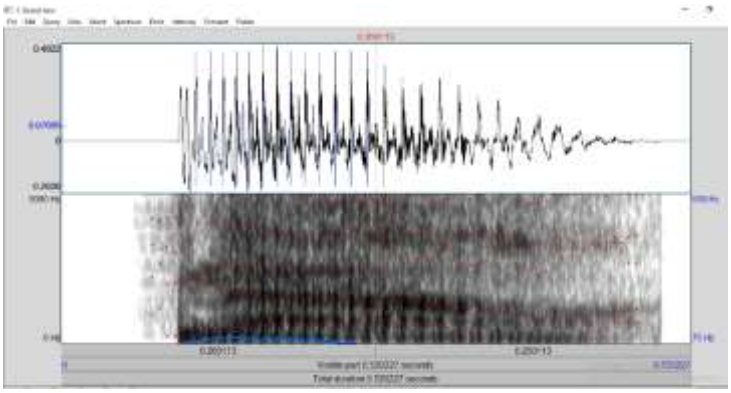
The final word of the table number seven is *moan* which is pronounced differently by the Pakistani speakers as compared with the British token. The number of pulses, produced by PRAAT, in case of the British token are 24, but the mean number of pulses in case of the Pakistan speakers are 56.333 which is about two times higher than the British token. Such a big difference signifies the natural deviation in pronunciation between the British English pronunciation and the pronunciation of the Punjabi, Pakistani speakers in a very clear way. The values of the pitch are also far different as in the British English column the value is 109.689 and the mean value of the same word in case of the Pakistani speakers is 132.299. Similarly, the time taken by the British token to pronounce this word is 0.218 seconds and the mean value of the time period is 0.402 seconds in case of the Pakistani speakers. Besides, within the three Pakistani speakers, difference is much lesser than the difference between British token and Pakistani speakers' pronunciation. All the three values of pulses (60,53,56) pitch(151.164,118.53,127.174) and time (0.422,0.454,0.450) respectively in case of first, second and the third speaker are very close to one another which is indicating the element of uniformity of the pronunciation.

/aʊ/

/aʊ/ is the second diphthong which glides towards **ʊ** and pretty longer than the aforementioned diphthong. Just like previous diphthongs, 10 words were taken as sample and analyzed through PRAAT. The results have been shown in the form of spectrographs and the tables.

how is one of the selected words, spectrographic results of which have been given below.

Figure 29 British English Pronunciation

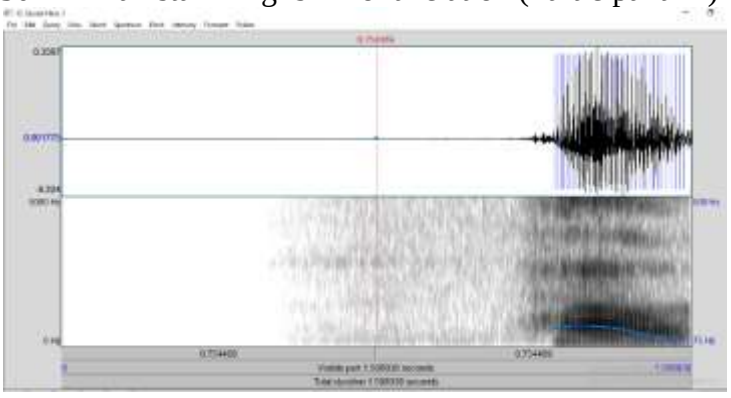


The above and the following spectrographs are the manifestation of the word *now* which carry **/aʊ/** sound. It is noted that there is remarkable difference between the time duration of the British speakers and the Pakistani participants to utter the word *now*. It may be due to the reason that Pakistani speakers took a bit more time and made the word **/aʊ/** lengthier as compared to the British speaker. The change of the length also seems manipulating the frequency line on the spectrographs; hence, there is a difference of position and direction on the lower graph of the spectrographs.

The above spectrograph is showing the acoustic features of the word *how* which was pronounced by the British speaker. The area covered by the number of pulses on the upper half of the spectrograph is lesser than the previous spectrographs that belong to the British speaker's pronunciation. (Exact facts and figures have been discussed subsequently)

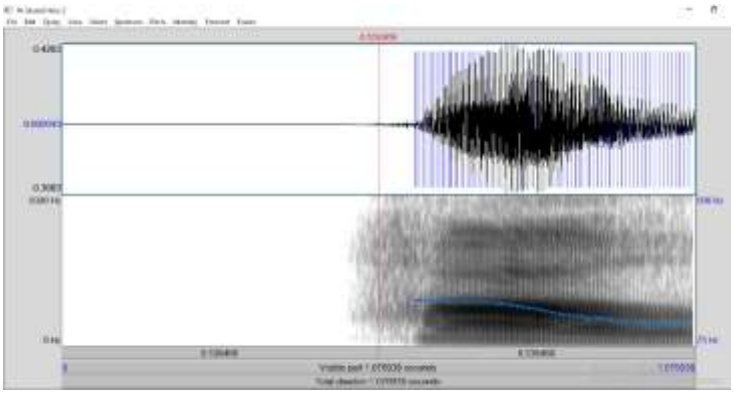
Furthermore, the lower half of the spectrograph shows the area of the frequency with a blue line which glides downward and then extends at X-axis. (Exact facts and figures have been discussed subsequently)

Figure 30 Pakistani English Pronunciation (Participant 22)



Kachru is of the view that language may be affected by so many local factors. These factors may be cultural, historical, political, or in short norm-depending. Therefore, it is not unlikely if **/aʊ/** sound is given more length by Pakistani speakers as compared to the British speakers due to may be the influence of their mother tongue Punjabi in which most of the time Urdu vowels sounds are given comparatively more length than the English vowels sounds; especially, when it comes to the /a:/ sound. Furthermore, there are few other areas which can be examined; for example, the above spectrograph shows the squeezed pulses that have been frequently noted in the similar pattern almost in all the previous spectrographs that belong to the Pakistani participants. Moreover, the lower half of the spectrograph shows the area of the frequency with a blue line which glides downward and ends at 75 HZ. (Exact facts and figures have been discussed subsequently)

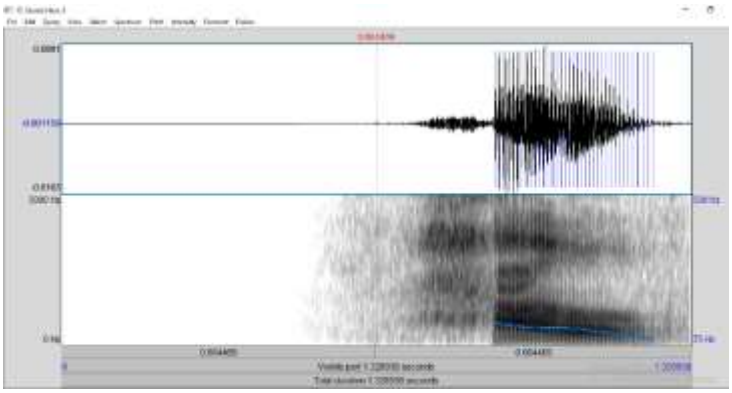
Figure 31 Pakistani English Pronunciation (Participant 23)



On the above spectrograph, number of pulses have been shown; once again, in the same pattern; however, frequency lines does not touch 75HZ like the preceding spectrograph; rather it remains vertically upward.

The third spectrograph is also variant not only from the British speaker's spectrograph but somehow also from the first two spectrograph that belong to the Pakistani participants. It is noted that the following spectrograph's number of pulses are less squeezed as compared with the other two spectrographs that belong to the Pakistani participants. On the other side, on lower half, the frequency line once again, after gliding downward, is going straightaway towards the value 75 HZ like the first spectrograph of the Pakistani participant and asserts that there is still consistency and uniformity in the pronunciation within the Pakistani participants' pronunciations.

Figure 32 Pakistani English Pronunciation (Participant 24)



The third spectrograph is also variant not only from the British speaker's spectrograph but somehow also from the first two spectrographs that belong to the Pakistani participants. It is noted that the third spectrograph's number of pulses are less squeezed as compared with the other two spectrographs that belong to the Pakistani participants. On the other side, on lower half, the frequency line once again after gliding downward, is going straight towards the value 75 HZ like the first spectrograph of the Pakistani participant and asserts that there is still consistency and uniformity in the pronunciation within the Pakistani participants' pronunciations.

Table 8 Quantitative Analysis **/aʊ/**

	British Speaker			**Speaker 22**			**Speaker 23**			**Speaker 24**			**Mean**		
Words	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**	**Pulses**	**Pitch**	**Time**
BOW	13	113.992	0.1138	37	122.864	0.3263	70	155.52	0.4637	50	120.347	0.429	52.33333	132.9103	0.406333
BROW	4	82.182	0.2121	54	116.47	0.4963	120	155.762	0.7719	62	114.212	0.5444	78.66667	128.8147	0.6042
BROWN	13	112.189	0.1247	66	119.662	0.6166	120	173.134	0.7072	67	119.689	0.5644	84.33333	137.495	0.6294
COW	12	112.465	0.1209	46	109.987	0.4146	82	158.139	0.5539	39	118.306	0.3338	55.66667	128.8107	0.4341
CROWD	21	92.013	0.2222	44	116.399	0.4493	93	168.811	0.5518	50	123.182	0.4201	62.33333	136.1307	0.473733
DROWN	13	117.308	0.1328	45	117.956	0.4475	147	166.887	0.8886	67	116.188	0.5929	86.33333	133.677	0.643
FOUND	8	86.039	0.0891	43	109.521	0.4121	91	158.789	0.6057	53	118.812	0.4743	62.33333	129.0407	0.497367
FROWN	26	93.693	0.2761	39	116.636	0.3419	110	172.738	0.6775	61	121.042	0.5342	70	136.8053	0.517867
GOWN	14	95.721	0.218	55	118.384	0.4771	113	156.314	0.7405	67	125.096	0.572	78.33333	133.2647	0.596533
HOW	13	85.047	0.1688	38	119.623	0.3449	81	171.787	0.4913	40	117.835	0.3485	53	136.415	0.3949

4.8 Interpretation

The quantitative results are clearer than the spectrographic manifestation. For instance, the word *how* out of 10 words shows quiet distinguish results in Pakistani English pronunciation as compared to British English pronunciation. Number of pulses are 13 in native case and 53 in Pakistani English pronunciation which is a larger number. Likewise, pitch of native speaker for word *how* is 85.047 and 136.415 in case of Pakistani English pronunciation. Lastly, time taken in order to pronounce the word *how* in case of British English pronunciation is 0.1688 seconds and 0.3949 seconds in Pakistani English pronunciation. More or less, results are same for rest of the 9 words which have been given in table 08.

Moreover, the numeric and the spectrographic analysis of the word *bow* also describes that the all three values of pulses (13), pitch(113.992) and the time period (0.113s) in case of the British Token is far diverse than the Pakistani speakers' mean values of pulses(52.333), pitch (132.910) and the time period(0.406s).

Furthermore, the numeric and the spectrographic analysis of the word *brow* also describes that the all three values of pulses (4), pitch(82.182) and the time period (0.212s) in case of the British Token is far diverse than the Pakistani speakers' mean values of pulses(78.666), pitch (128.814) and the time period(0.604s).

The third word of the ten-word list, which has been given in the table number eight, is *brown* whose value of pulses is 13 in the column of the British English pronunciation and the mean value of this word is much higher than the British token in the column of the Pakistani speakers that is 84.333. Almost six times higher value than the British token signifies the variance of the pronunciation well. The pitch is also noticeable which is 112.189 in case of the British English pronunciation, nevertheless the mean value 137.495 is pretty higher than the value of the British token in case of the Pakistani speakers. Likewise, British token was pronounced in 0.124 seconds while the Pakistani speakers' time period 0.629 seconds is almost five times higher than the British English pronunciation. The differences among these values is also not less than the first two words of the list. However, all the three values of pulses (66,120,67) pitch(119.662,173.174,119.689) and time (0.616,0.707,0564) respectively in case of first, second and the third speaker are not very near to one another which is indicating the hint of non-uniformity of the pronunciation. Nonetheless, the variance within the three Pakistani speakers are not as much higher as it is noticed in case of the comparison

of the British token and the mean values of Pakistani speakers in term of pulses, pitch and time period..

The subsequent word of the ten-word list, which has been given in the table number 6 is *cow* which was also spoken contrarily by the Pakistani speakers as compared to the British token. The number of pulses, produced by PRAAT, in case of the British token are12 nevertheless the mean number of pulses in case of the Pakistan speakers are 55.666 that are almost four times higher than the British token. Such an immense difference signifies the natural deviation in pronunciation between the British English pronunciation and the pronunciation of Punjabi, Pakistani speakers. The values of the pitch are also far different as in the British English column the value is 112.465 and the mean value of the very word in case of the Pakistani speakers is 128.810. Likewise, the time taken by the British token to voice this word is 0.120 seconds and the mean value of the time period is 0.434 seconds in case of the Pakistani speakers. Additionally, within the three Pakistani speakers the variance is much lesser than the difference between British token and Pakistani speakers. All the three values of pulses (46,82,39) pitch(109.987,158.939,118.304) and time (0.414,0.553,0.333) respectively in case of first, second and the third speaker are not very close to one another which is indicating the element of non-uniformity of the pronunciation. However, these variations do not diverge much like the previous analysis.

The fifth word of the ten-word list, which has been included in the table number eight is *crowd* whose value of pulses is 21 in the column of the British English pronunciation and the mean value of this word is much higher than the value of the British token in the column of the Pakistani speakers which is almost 62.333. The almost three times higher value than the British token signifies the variance of the pronunciation well. Moreover, the pitch is 92.013 in case of the British English pronunciation; on the other hand, the mean value 136.130 is much higher than the value British token in case of Pakistani speakers. Likewise, British token is pronounced in 0.222 seconds while the Pakistani speakers' time period 0.473 seconds is almost two times higher than the British English pronunciation. The differences among these values is also not less than the first four words of the column. Moreover, all the three values of pulses (44,93,50) pitch(116.399,168.811,123.182) and time (0.449,0551,0.420) respectively in case of first, second and the third speaker are not very close to one another which is indicating the element of non- uniformity of the articulation.

The sixth word of the table number eight is *drown* which was also articulated in a different way by the Pakistani speakers as compared with the British token. The number of pulses, produced by PRAAT, in case of the British token are 13 but the mean number of pulses in case of the Pakistan speakers are 86.333 which is almost 7 times higher than the British token. Such a massive difference signifies the natural deviation in pronunciation between the British English pronunciation and the pronunciation of Punjabi, Pakistani speakers well. The values of the pitch are also far different as in the British English column the value is 117.308 and the mean value of the same word in case of the Pakistani speakers is 133.677. Likewise, the time taken by the British token to pronounce this word is 0.132 seconds and the mean value of the time period is 0.643 seconds in case of the Pakistani speakers. Moreover, within the three Pakistani speakers the difference is much lesser than the difference between the British token and the Pakistani speakers. The first and the third value of pulses (45,147,67), the first and the third value of pitch(117.956,166.887,116.188) and also the first and the third value of time (0.447,0.888,0.592) are close to one another which is indicating the element of uniformity of the pronunciation. However the pronunciation of the second Pakistani speaker is found different in each case. Nonetheless, this difference is much lower as compared with the previous analysis.

The seventh word of the table number eight is *found* which was enunciated in a different by the Pakistani speakers as compared with the British token. The number of pulses, formed by PRAAT, in case of the British token are 8 but the mean number of pulses in case of the Pakistan speakers are 62.333 which are almost nine times higher than the number of pulses of the British token. Such a big difference signifies the deviation in pronunciation between the British English pronunciation and the pronunciation of Punjabi, Pakistani speakers. The values of the pitch are also distant as in the British English column the value is 109.521 and the mean value of the same word in case of the Pakistani speakers is 129.040. Likewise, the time taken by the British token to pronounce this word is 0.089 seconds and the mean value of the time period is 0.497 seconds in case of the Pakistani speakers which is once again far different. Moreover, within the three Pakistani speakers, the difference is much lesser than the difference between British token and Pakistani speakers. The first and the third value of pulses (43**,91**,53) pitch(**109.521,158.789**,118.812) and time (**0.412,0.605**,0.474) respectively in case of the first and the third speaker are close to one another which is demonstrating the element of uniformity of the pronunciation. However, the values of

number of pulses, pitch and time period of the second speaker is pretty different from the other two Pakistani speakers.

The eights word of the ten-word list, which has been included in the table number eight is *frown* whose value of pulses is 26 in the column of the British English pronunciation and the mean value of this word is much higher than the value of the British token in the column of the Pakistani speakers that is 70. Nearly the double value is signifying the difference of the pronunciation in a very clear term. The pitch is 93.693 in case of the British English pronunciation, nevertheless the mean value 136.805 is pretty higher in case of Pakistani speakers. Likewise, the British token is pronounced in 0.276 seconds; on the other hand, the Pakistani speakers' time period in order to pronounce the word 0.517 seconds is almost double than the British English pronunciation. The differences among these values is also not less than the first seven words of the column. Moreover, all the three values of pulses (39,110,61) pitch(116.636,172.738,121.042) and time (0.341,0.677,0.534) respectively in case of first, second and the third speaker are not very close to one another which is indicating the element of uniformity in the pronunciation

The ninth word of the table number eight is *gown* which is pronounced differently by the Pakistani speakers as compared with the British token. The number of pulses, produced by PRAAT, in case of the British token are 14 but the mean number of pulses in case of the Pakistan speakers are 78.333 which is about four times higher than the British token. Such a big difference signifies the deviation in pronunciation between the British English pronunciation and the pronunciation of the Punjabi, Pakistani speakers well. The values of the pitch are also far different as in the British English column this value is 95.721 and the mean value of the same word in case of the Pakistani speakers is 133.264. Likewise, the time taken by the British token in order to pronounce this word is 0.218 seconds and the mean value of the time period is 0.394 seconds in case of the Pakistani speakers. However, within the three Pakistani speakers, the difference is significant from one another. All the three values of pulses (55,113,67) pitch(118.384,156.314,125.096) and time (0.477,0.740,0.572) respectively in case of first, second and the third speaker are not very close to one another which is indicating the element of non-uniformity of the pronunciation.

(The last word *how* has already been discussed)

CHAPTER 5
FINDINGS, DISCUSSION AND CONCLUSION

5.1 Summary of the Findings

After the detailed analysis of the collected data the researcher is in a position to draw the following findings.

Pronunciation is one of important areas of Pakistani English, which is widely manipulated by the Pakistani speakers and they have created different pronunciation. In current research, almost all 8 diphthongs were found different which have their own characteristics and peculiarities.

- **/eɪ/** is significantly different from the British English pronunciation as none of the research participants articulated this sound with a glide which in fact is the most essential feature of a diphthong; rather, they pronounced it with a straight sound. In other words, all the research participants monophthongized this English diphthong. Similarly, there was a very visible difference in terms of duration. The analysis of the data shows that all the participants pronounced this English diphthong with a longer duration (0.361 seconds) as compared with the native speaker (0.145 seconds). Likewise, research participants showed different pitch (215.517) and number of pulses (44.333) as compared to the British pitch (109.171) and number of pulses (16) in the pronunciation of the word *ache*. There were also differences within three Pakistani participants' pronunciation in term of number of pulses (participant I= 32, participant II= 47, participant III=54), pitch(participant I= 145.51, participant II= 238.603, participant III=262.44) and the time (participant I= 0.236 seconds, participant II= 0.417 seconds, participant III=0.429 seconds)
- **/aɪ/** is less different as compared to /**eɪ/** sound from British English, but it has also its peculiar pronunciation which is different from British English pronunciation. None of the participants pronounced this word, the way British pronunciation was pronounced. The word *bind*; for example, took longer duration (0.753 seconds) as compared to the time taken by British pronunciation (0.208 seconds). Similarly, the sound also differs due to several other reasons; for instance, in order to pronounce the word *bind*, the Pakistani participants produced more number of pulses (92) and different pitch (135.255) as compared

with the native speaker's number of pulses (18) and pitch (89.614). There was slight difference among three Pakistani participants in producing number of pulses (participant I= 110, participant II= 76, participant III=90), pitch (participant I= 134.439, participant II= 127.328, participant III=143.999) and also the time (participant I= 0.958 seconds, participant II= 0.636 seconds, participant III=0.664 seconds).

- **/ɔɪ/** was found different when the participants pronounced it by taking more time (0.434 seconds) as compared with time taken by British speaker (0.322 seconds); for example, in case of word *boil*. Therefore, the difference of 0.112 seconds showed the variation of the pronunciation. Likewise, the number of pulses (51.666) and pitch (116.551) produced by the Pakistani participant were more than number of pulses (28) and pitch 86.66 produced by the British speaker. Overall, three of the participants did not produce much different pitch(participant I= 145.817, participant II= 117.156, participant III=116.895) ,number of pulses (participant I= 65, participant II= 62, participant III=64) and most importantly the time period(participant I= 0.445 seconds, participant II= 0.534, participant III=0.631 seconds).
- **/ɪə/** has its own peculiarities in Pakistani English as Pakistani participants pronounced it with different pronunciation; for example, in case of word *beard,* in term of number of pulses (60) as compared with British pronunciation (07). Likewise, pitch(125.515) and the time (0.170 seconds) were different in case of Pakistani speakers' pronunciation as compared with British speaker's pitch (88.556) and the time (0.170 seconds). Moreover, there were the slight differences within the three Pakistani participants' pronunciation in term of number of pulses (participant I= 47, participant II= 68, participant III=67), pitch(participant I= 130.777, participant II= 122.886, participant III=122.886) and especially the time period (participant I= 0.402 seconds, participant II= 0.555 seconds, participant III=0.560 seconds)
- **/eə/** was noted less different as compared with other diphthongs, but still there were certain differences in Pakistani participants' pronunciations; for example, reading the values of word *bare,* in term of number of pulses (75), pitch (145.573) and the time (526 seconds) as compared with British Speaker's number of pulses (17), pitch (108.852) and the time (0.160 seconds) shows a different way of pronouncing this diphthong. On the other hand, Pakistani

speakers' pronunciations of this diphthong were more uniform as compared with any other diphthongs on the scores that there were not much differences within three Pakistani participants' values of number of pulses (participant I= 79, participant II= 73, participant III=73), pitch (participant I= 147.993, participant II= 144.364, participant III=144.364) and the time period (participant I= 0.542 seconds, participant II= 0.515 seconds, participant III=0.521) seconds.

- **/ʊə/** was noted as different sound, but there was lack of uniformity in a sense that in some of the words it was pronounced almost the naïve like while in some other words it was manipulated in Pakistanis' own typical style. For instance, the word *brewer* was pronounced with different pronunciation in term of number of pulses, (666.333) pitch (145.570) and the time (0.494 seconds) by Pakistani participants as compared with British speaker's number of pulses (30), pitch (159.583) and the time period (0.201 seconds). However, the lack of uniformity was also noted within Pakistani participants' number of pulses (participant I= 70, participant II= 74, participant III=55), pitch (participant I= 144.608, participant II= 167.758, participant III=124.345) and the time period (participant I= 0.514 seconds, participant II= 0.489 seconds, participant III=0.479 seconds) in order to produce the very word. This diphthong, in some cases (for example in case of word dual) was replaced with the combination of a vowel in the urdu word zoor(power) and the English Schwa sound. On the other hand in some cases it was replaced with a new diphthong which is combination of /w/and /i:/ . (for example in case of word like Jewel)
- **/əʊ/** is considerably changed from the British English pronunciation as none of the research participants pronounced this sound with a glide which in fact is the most important feature of a diphthong; unlike, they pronounced it with a straight sound. In other words, all the research participants monophthongized this English diphthong and replaced it with the sound which was closer to the English, long vowel /U:/ ; however, this sound was more like the sound in Urdu words*) Moor (peacock), zoor(power)* etc. Similarly, there was a very noticeable variance in terms of duration. The study of the data shows that all the participants pronounced this English diphthong with a longer duration (0.327 seconds) as compared with the native speaker (0.0748 seconds). Likewise, research participants revealed changed pitch (127.411) and number of pulses

(37.333) as compared to the British pitch (105.196) and number of pulses (07) in the pronunciation of the word *boast*. There were also differences within three Pakistani participants' pronunciation in term of number of pulses (participant I= 33, participant II= 27, participant III=52), pitch (participant I= 130.97, participant II= 123.742, participant III=127.523) and the time (participant I= 0.262 seconds, participant II= 0.400 seconds, participant III=0.418 seconds). However, these difference are minor as compared with the differences between native and Pakistani sparkers' pronunciation.

- **/aʊ/** sound was noticed slightly less different as compared with all above the seven diphthongs, but there was lack of uniformity in different speakers' pronunciation. The analysis of the data shows that this sound was pronounced with a different number of pulses (55.333), pitch 132.910 and the time period (0.406 seconds) by the Pakistani research participants as compared with British speaker's number of pulses (13), pitch (113.992) and the time period (0.113 seconds) in case of word *bow*. However, the variance, within three Pakistani participants, was also noted in term of number of pulses (participant I= 37, participant II= 70, participant III=50), pitch (participant I= 122.864, participant II= 155.22, participant III=120.347) and the time (participant I= 0.326 seconds, participant II= 0.463 seconds, participant III=0.429 seconds). However, these difference are minor as compared with the differences between native and Pakistani sparkers' pronunciation.

5.2 Discussion

The current research was based upon diphthongs of Pakistani English and the researcher compared the pronunciation of English diphthongs articulated by native speakers with the Pakistani, Punjabi participants. These difference were found out in terms of pitch, number of pulses and the time period thorough PRAAT. There were certain objectives to carry out the current research and few questions were given to find out the answers.

Considering the first objective (*to analyze how Punjabi speakers in Pakistan articulate English diphthongs)* of the current research, researcher is in a position to state that the objective has been achieved in the light of the answers of the first and the second research question. The researcher has analyzed that Punjabi speakers pronounce the

English diphthongs differently than the native speakers of the English (Received Pronunciation) in term of pitch, number of pulses and the time period.

Responding to the second objective of the research, *(to find out how the diphthongal articulation by Pakistan, Punjabi speakers in Pakistan is different from the native articulation in term of pulses, duration and pitch)* it can been stated that it has also been achieved to the greater extent because researcher successfully found out that Pakistani English is different from the British English. These difference were found when the participants pronounced the English diphthongs with variational pitch, number of pulses and the time period.

Finally, the last objective of the research *(to find out if diphthongal articulation by Pakistani/ Punjabi subjects follows uniform patterns)* has also been achieved since researcher found that Pakistani speakers sometimes did not pronounce the English diphthongs with uniformity and articulated it with variations from other participants.

Addressing to the first research question that what the differences are between Pakistani English and native articulation in terms of intensity, duration and pitch, it can be answered that diphthongs in Pakistani English are different than the Received Pronunciation. These difference of intensity, duration and pitch were found through PRAAT.

Answering to the last research question, (What are the differences in pronunciation, in terms of diphthongs, among the study participants?), it can be responded that the difference has not only been observed between Pakistani English and the British English, but it also lies with in Pakistani speakers on the scores that sometimes their pronunciations do not resemble one another; however, to some extent the pronunciation within the research participants was uniform.

5.3 Recommendations

Importance of the English language in Pakistan is increasing with every passing day and the usage of this language is inevitable because the language has got a high niche in different domains of life and is being used extensively; take for example, military, judiciary, parliament, education, science, media etc. Due to usage at mass level, variations in Pakistani English have become inevitable and worth studying. The current research was conducted upon Punjabi speakers only, but it can further be directed towards the people who have Pashto, Sindhi, Saraiki, Balochi, Bilti, or Pahari as their first language.

In addition, apart from the diphthongs, objective researches are also needed to be conducted upon the other areas of the English language; for example, pure vowels, consonants etc. Furthermore, there is dire need of using and searching softwares like PRAAT in such researchers which should have more features apart from pitch, time duration, and number of pulses.

5.4 Conclusion

In the research, the researcher has found out that there exists difference not only between Pakistani and British English but also between the local English speakers of Pakistan. While using the different methods of pitch, pulse and time period, the researcher has arrived at the conclusion that not only the Punjabi, Pakistani articulated English differently from the British English but also differently among themselves. It has also been found that Pakistani Punjabi speakers took different time period, number of pulses and frequency in order to pronounce all eight diphthongs in case of almost all selected eighty words. However level of change in each diphthong was different owing to its changed time period, frequency, and number of pulses. Moreover, whenever a speaker altered the English diphthong he brought a new diphthong or a new vowel which was peculiar to the Punjabi speakers due to having Punjabi as their mother tongue.

/eɪ/ is different from the British English pronunciation to the greater extant as none of the research participants pronounced this sound with a glide which in fact is the most crucial feature of a diphthong; rather, they articulated it with a straight sound. In other words, all the research participants monophthongized this English diphthong. Instead of diphthong **/eɪ/** participants articulated the selected words with sound which can be observed in the Urdu word *Sh**e**r*(Lion).

/aɪ/ is not as much of different as /**eɪ/** sound is from British English, but it has also its peculiar pronunciation which is different from British English pronunciation. None of the participants articulated this word, the way British articulation was pronounced. Most participants pronounced this diphthong with a sharp end which can be noticed in the end of the Urdu words *Halw**ai*** and *Raz**ai*.**

/ɔɪ/ was articulated with a different pronunciation which was evident in obtained values of frequency, number of pulses and time period. It was noticed that research participants brought an extra sound /w/ before **/ɔɪ/** sound ; for instance, word *boy* was pronounced as /bw**ɔɪ/** instead of /b**ɔɪ/.**

/ɪə/ was also pronounced with a different articulation and it was observed that participants had replaced diphthong **/ɪə/** with **/eə/** and pronunciation of beard was noticed as /beərd/ instead of /bɪəd/.

/eə/ was noted less different as compared with other diphthongs, but still there were certain differences in Pakistani participants' pronunciations that were noticed with the help of frequency, number of pulses and time period. Moreover, these values were not far different within Pakistani participants. In addition, the researcher did not find any replaced sound against this diphthong.

/ʊə/ was observed as altered sound, but there was absence of consistency in a sense that in some of the words it was pronounced almost the naïve like while in some words it was manipulated in Pakistanis' own typical style. Moreover, in altered form first sound of this diphthong /**ʊ/** with a sound which can be noticed at the end of the Urdu word *S**o*** (sleep) *R**o*** (weep).

The diphthong **/əʊ/** was monophtongized and the participants, removing the glide, pronounced it with a sound which can be noticed in the mid of the Urdu word *Z**o**r*(power).

/aʊ/ sound was noticed marginally less different as compared with all the other seven diphthongs, but there was lack of uniformity in different speakers' pronunciation. Moreover, the researcher did not find any replaced diphthong against it.

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Appendix

Pronunciation of the Pakistani Participants

Tokens of British Standard English (RP)

Voice Reports

Spectrographs

{This section has been provided in CD (compact disc)}