

PSYCHOLOGICAL FACTORS INFLUENCING PASHTO SPEAKING ESL STUDENTS' PRONUNCIATION OF ENGLISH VOWELSIkramullah¹, Muhammad Ramzan², Zartashia Kynat Javaid*³**Original Article**

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ABSTRACT

It is challenging to have proficiency in pronouncing foreign language well. Correct pronunciation has great impact on listening and speaking. Psychological factors play role in learning and execution of language. This study used mixed method research design. For the purpose of data collection, it employs multiple tools i.e. behavioral observation, semi structured interviews and experiments. Six students were interviewed to have detailed analysis of their experience and the underlying psychological factors. Experimental investigation using PRAAT analyzed the vowel sounds. A list of 20 words containing vowel sounds was provided to 20 students and their pronunciation of the target words were recorded. It was concluded that some of the Monophthongs and especially diphthongs were very problematic for students. Highly problematic Monophthongs were /u/, /ɒ/, /ʊ/ while less problematic Monophthongs were /i:/, /ə/, /æ/, /ɑ:/. On the other side, highly problematic Diphthongs were /aɪ/, /ɔɪ/, /ʊə/, /eə/, /aʊ/ while less problematic Diphthongs were /eɪ/, /ɪə/, /əʊ/. Similarly, psychological factors which affect correct pronunciation were identified. Overuse of mother language, traditional teaching method, lack of motivation, unhealthy environment, anxiety, fear of negative evaluation and lack of confidence are some of the important obstacles making learning correct pronunciation hard. This study left a research gap for future researchers to investigate vowel sounds at other positions of words and remedies to have psychologically healthy environment.

Keywords: *Vowel Sounds, Monophthongs, Diphthongs, Anxiety, Lack of Motivation, PRAAT, Interviews*

INTRODUCTION

Pronunciation skills are a key to speak language properly. It has received little attention by practitioners though it is a vital language skill. Pronunciation has high impact on both listening and speaking (Ahmad et al., 2023). It is hard to have proficiency in pronouncing foreign language well and students take it as complex matter (Suzukida & Saito, 2022). Different psychological factors play role in changing the experience of students learning language skills. A study on foreign language classroom anxiety supports worry-emotionality theorization of anxiety and found that fear of negative evaluation, communication apprehension, peer pressure and self-confidence in speaking English affects psychologically (Zhang & Lai, 2023). Students should work for improved pronunciation ability.

Phonetics is defined as the study of ways in which speech sounds are originated. Phonology deals with, first: how speech sounds of a particular language are used in that very language to differentiate meaningful parts like words from each other, and second: how sounds are shaped in a language. Therefore, the study of phonology needs to consider meaning into consideration while phonetics does not (Delahunty, 2010). Phonetics deals with the study of different sounds in different languages. Linguistics use the IPA, International Phonetic Alphabet, to explain sound systems. This alphabet contains symbols which represent all those sounds which have been established in human languages. Phonology is considered as the study of sounds which are used by the speakers of a specific language. A phoneme is a sound which makes a difference in a language regarding meaning. Several languages in the world use different sets of phonemes for the communication of idea (Freeman, 2004). There are 44 phonemes in English. Out of which 24 are consonants while 20 are vowel sounds. Consonant is a kind of phoneme which is produced with certain kind of obstruction or hindrance. The airflow is released after such obstruction by articulators (Syed et al., 2017).

While vowel sound is a kind of phoneme which is produced without any obstruction by the articulators while consonant sounds are produced with some kind of resistance or obstacle when air passes from the larynx to lips. In producing these sounds obstruction to the flow of air is clearly observed (Roach, 2009).

A study was conducted on Chinese Indonesian students having problem in English Vowels. Repetition drills and phonetic transcriptions methods improved overall values of some English vowel phonemes (Damanik et al., 2023). Some of the important issues which are faced by learners while speaking with one another are generally lack the idea about correct pronunciation of words and its meanings. Some learners are misled by spellings which do not match pronunciation of words. They focus on letters instead of sounds. Moreover, there are some sounds which are not present in the mother language (L1) of the students (Riadi, 2013).

Pashto is considered as the mother language of Pashtun people living in Afghanistan and in the north western areas of Pakistan. Pashto is said to be split ergative language. All types of ideas and opinion can be expressed in it. Pashto is official and national language in Afghanistan and is the medium of communication and education in the country. There are about fifty million Pashto speakers globally. After Punjabi, Pashtun are the second most major portion in Pakistan as estimated in 2017 Census. There are 5 major dialects of Pashto language, i.e Quetta dialect, Middle dialect, Central dialect, Yousafzai dialect and Qandahar dialect. Yousafzai dialect is considered as the prestigious and standard dialect among others. Pashto has its own phonological system. It has 27 consonants and 9 vowel sounds in the Yousafzai dialect of Pashto (Shahabullah et al., 2022). In the Pashtun-based province of Pakistan, Pashto is taught in educational institutions from first grad to grad 12 mostly in government based institutions (Farooq, 2004). A study on Sindhi speakers reveal lack the realization of clear contrast between the English vowel pairs in terms of vowel quality (Hussain et al., 2022).

For the analysis, Frequencies of phonemes are drawn using different tools. PRAAT is a computer based software. When sounds are recorded and saved in digital format, they are mathematically analyzed in different frequencies. Waves and spectrographs of phonemes are designed and analyzed. Their pitch, intensity, formants and duration are recorded and analyzed. Every vowel sound has a pattern of 2 or 3 prominent frequencies which are said to be formants (Fasold, 2013).

In a research study, Sharma (2019) defined and classified 20 vowel sounds in English. These 20 vowel sounds are: /i:/, /ɪ/, /æ/, /e/, /ʌ/, /ə/, /ɜ:/, /ɑ:/, /ɒ/, /ɔ:/, /u:/, /ʊ/, /eɪ/, /ɔɪ/, /aɪ/, /aʊ/, /əʊ/, /ɪə/, /ʊə/, and /eə/. Vowel sounds are grouped into 2 major types. First one is monophthongs and second one is diphthongs. Monophthongs are single vowels or pure vowels in the production of which no noticeable change in vowel quality is observed. Out of the total vowel sounds, 12 are monophthongs. They are represented as /i:/, /ɪ/, /e/, /æ/, /ə/, /ʌ/, /ɜ:/, /ɑ:/, /ɔ:/, /ɒ/, /u:/, /ʊ/.

Similarly, “diphthongs are such sounds which are made by gliding from one vowel sounds to another vowel sound” (Sharma, 2019). Diphthongs are 8 in number and they are represented as /eɪ/, /ɔɪ/, /aɪ/, /aʊ/, /əʊ/, /ɪə/, /ʊə/, and /eə/. Mother language has great influence on learning a target language. Pashto is the mother language (L1) of the target students. Many studies have been conducted in which various inventories have been proposed. For instance, Tigey and Robson (1996), stated that three major dialects i.e Western dialect (Kandahar), central dialect (Kabul), and eastern dialect (Ningrahar). There are 9 vowel sounds in the central (Kabul) dialect of Pashto according to the said research.

A study conducted by Rahman & Din (2011), investigated the ‘acoustic analysis of Pashto vowel sounds’ in which the Pashto nine vowel sounds were analyzed acoustically. Durations of each vowel sounds and their frequencies like F1 and F2 were recorded. A quadrilateral was mapped for these vowel sounds which gave idiosyncratic quality of these Pashto vowels.

Mohammed (2016), aimed at investigating difficulties faced by the students of Sudan of English language in pronouncing vowel sounds of English. Results shows that mother tongue (L1) interference and the differences in sound system are the two important factors which caused problems in pronunciation of English vowel sounds.

Results of the study entitled “English vowel sounds: pronunciation issues and student and faculty perceptions” showed that the 3 most difficult vowel sounds for these learners were /ʊ/, /ɪ/, and /æ/ (Sanchez, 2019).

Iqbal et al. (2021), investigated “monophthongisation of English diphthongs by native speakers of Pashto” which showed that monophthongisation of English diphthongs is common in native speakers of Pashto. There is deletion and lengthening of some sounds by these native Pashto speakers. These native Pashto speakers make such variety of English as a separate variety.

Lastly, Rannah (2021), investigated the learners’ ability in pronouncing vowel sounds of the 5th semester 142 students of English Education Department of Suska Riau. Some of the learners face difficulty to pronounce pure vowel sounds like /ɪ/, /i:/, /e/, /ʌ/, /æ/, /ɒ/, /ɑ:/, /ɔ:/, /ʊ/, /u:/, /ə/ and /ɜ:/ and also in correct pronunciation of diphthongs like ʊə, ɪə, eə, v:, eɪ, aɪ and əʊ. Results of the study showed that the learners’ ability in pronunciation of the vowel sounds was in the higher score or in a very good category having mean score was 96.66.

While discussing psychological factors researchers worked on different aspects and strategies. A recent study at The Islamia University of Bahawalpur on graduate ESL learners used direct and indirect strategies. Direct strategies were memory strategies, cognitive strategies and compensation strategies whereas indirect strategies were social strategies, metacognitive strategies and affective strategies. Results highlights higher preference to use cognitive and

metacognitive strategies more by ESL learners (Qanwal et al., 2022). It is also explained by Nawaz, S. et.al (2021) that we must focus on listening comprehension along with information communication technology use for English Language Teachings. Furthermore, N. Shahid et.al (2020) have explained that stress patterns “provide a useful pedagogical insight into the perspective of English language teaching with particular emphasis on spoken proficiency of English among students whose L1 is Urdu”.

A study identified a set of non-linguistic factors which influence learning of language to great extent. It was described that age, personality, attitude, culture, learning goals and motivation are certain factors where teachers has less control over learning outcomes (Masgoret & Gardner, 2003). Another study gave account of behavioral analysis of individuals on their leaning performance. For this purpose they analyzed how cognitive styles are used among Pakistani ESL learners. Visual cognitive style and focus cognitive style were studied. Focused activities should be part of learning process and drills should be used to enhance knowledge of English language (Tariq et al., 2023).

A study on Tunisian university students found that personality, gender and class level of individuals predicts English as Foreign Language learners' acceptance (Bouzayenne, 2023). Another study in Cihan university studied obstacles in teaching and learning phonetics in English as Foreign Language learners' classroom. It found that diphthongs were hard to learn and students made mistakes in pronunciation. Some factors like interference of mother tongue, less trained lecturers, decontextualization and demotivation of learners played huge role in mispronunciation (Abdulwahid, 2023). It was found that communicative approach was used and perceived as useful by Pakistani teachers while teaching English. Communicative competence plays positive role in language acquisition (Qureshi et al., 2022).

Learning styles and strategies are effective in better learning. Its effect was studied in a classroom based research. In 11th grade, students were kinesthetic, auditory and visual learners. Effectiveness of learning styles helps choose learning strategy for students (Tiwery & Ritiauw, 2022). Another study on errors made by students of 11th grade while pronouncing English consonant sounds revealed that along with inter-lingual and intra-lingual causes, context of learning and communication strategy affects (Inayatul, 2023).

The research objectives of the current research study are:

- i. To find the vowel sounds which are difficult in pronunciation by the college level students in District Buner.
- ii. To identify psychological factors causing difficulty in pronunciation of vowel sounds by the College level students in District Buner.

METHODOLOGY

This study used mixed method research design. For the purpose of data collection, it employs multiple tools i.e. behavioral observation, semi structured interviews and experiments. Six students were interviewed to have detailed analysis of their experience and the underlying psychological factors. Experimental investigation using PRAAT analyzed the vowel sounds. A list of 20 words containing vowel sounds was provided to 20 students. Data were taken from Higher Secondary level students of Ghazali School and College District Buner via recording. The pronunciation of 20 vowel sounds was investigated. The pronunciation of these words were recorded on a microphone device. The formants frequencies of these vowels were compared with the formant frequencies of the native speakers. Problematic vowel sounds were pointed out after acoustic analysis of these vowels. The recordings of the students were analyzed through a

computer based PRAAT Software which gives spectrograms for the observation of data. Formant Frequencies F1 and F2 were analyzed. F1 shows height of a vowel sound and F2 shows backness of a vowel sound. Average Formant Frequencies were calculated and compared with the Formant Frequencies of the native speakers.

RESULTS AND DISCUSSION

Results are tabulated and pronunciation of each vowel sound is compared with the pronunciation of native speakers. Their two formant frequencies F1 and F2 are considered here. The average frequencies (F1 and F2) are calculated. Formants of all participants are analyzed on PRAAT software. Spectrograms of each participant is examined and formant values are taken from it. List of Monophthongs and diphthongs are separately given in the tables. They are compared with the formants values of native speakers. Results of each vowel sounds are compared below.

Monophthongs

The combined list of 12 Monophthong vowel sounds with their average formant frequencies F1 and F2 are compared with the formant frequencies of F1 and F2 of native speakers.

Table 3.1 Average Formant Frequencies of Monophthongs.

Words	Vowel sounds	Average formant frequencies of Pashto Speakers		Formant frequencies of Native Speakers	
		F1/Hz	F2/Hz	F1/Hz	F2/Hz
Meet	/i:/	337	2273	296	2241
Sit	/i/	410	1874	396	1839
Shoot	/u:/	381	1587	386	1587
Put	/u/	561	1406	395	1408
Bed	/e/	545	1627	532	1656
Complete	/ə/	429	1670	500	1500
Work	/ɜ:/	508	1418	519	1408
Cat	/æ/	637	1572	667	1565
More	/ɔ:/	473	860	480	857
But	/ʌ/	658	1241	661	1296
Large	/ɑ:/	666	1202	680	1193
From	/ɒ/	575	1070	643	1019

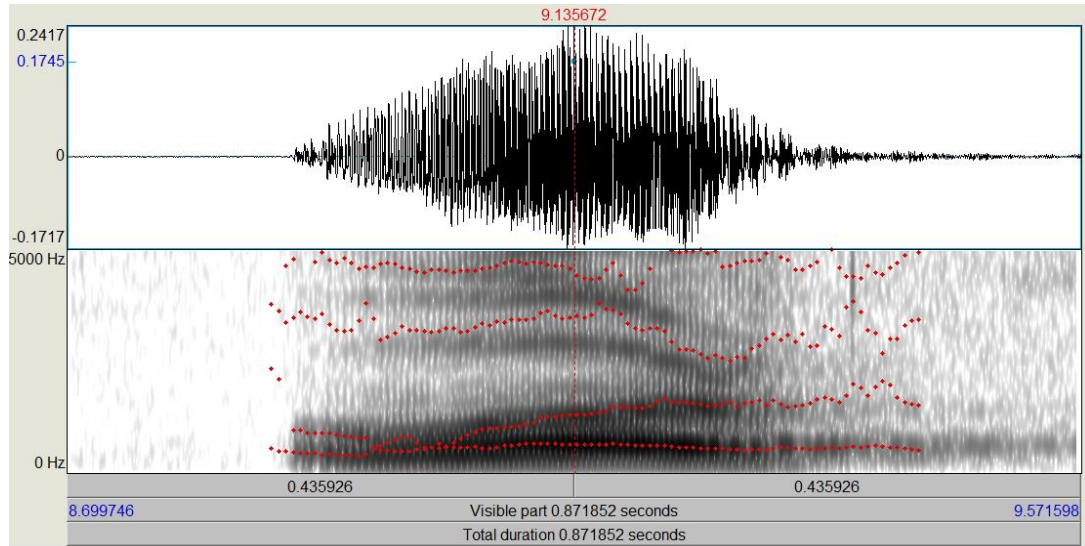


Figure 3.1 Spectrograph of Monophthong

Diphthongs

Results of the average Formant Frequencies F1 and F2 of Diphthongs are compared with the average Formant Frequencies F1 and F2 of Native speakers. All the target words have diphthong sounds at the medial position. The combined list is given below.

Table 3.2 Average Formant Frequencies of Diphthongs.

Words	Transcription	Diphthongs	Average formant frequencies of Pashto Speakers		Formant frequencies of Native Speakers	
			F1/Hz	F2/Hz	F1/Hz	F2/Hz
Take	/teɪk/	/eɪ/	789	2228	767	2277
Myself	/maɪself/	/aɪ/	756	2076	442	1955
Toys	/tɔɪz/	/ɔɪ/	635	2635	518	2401
Real	/rɪəl/	/ɪə/	350	2633	374	2058
Poor	/pɔ:(r)/	/ʊə/	621	1319	460	1215
Bear	/beə(r)/	/eə/	595	2546	374	2486
Bone	/bəʊn/	/əʊ/	581	1030	567	1039
Mouth	/maʊθ/	/aʊ/	974	1226	331	1254

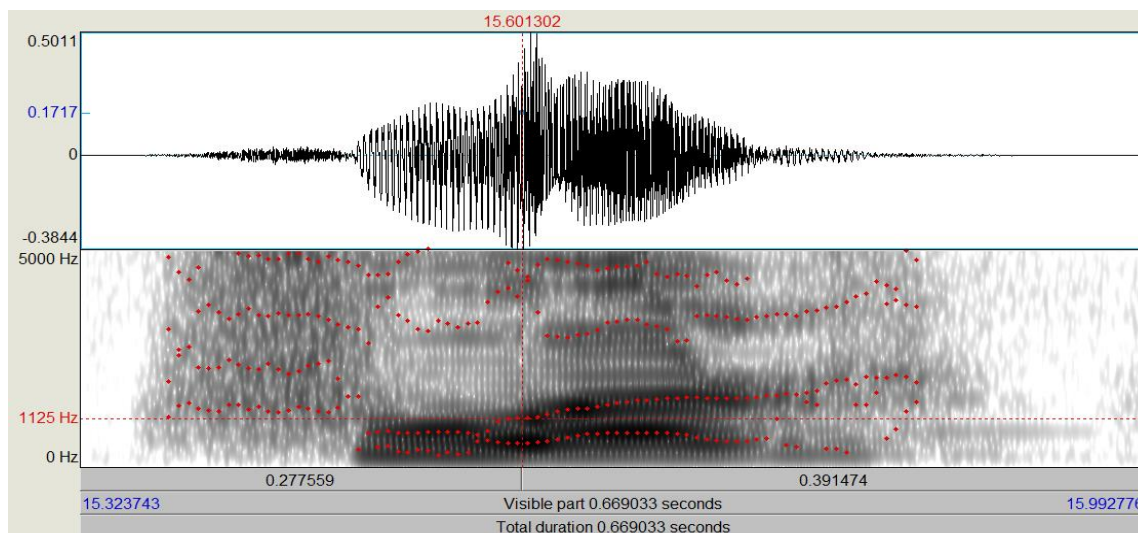


Figure 3.2 Spectrograph of Diphthong

It is found that the secondary level students in District Buner face problems in the correct pronunciation of vowel sounds which are found at the medial position of words. These issues and problems varied from height of the vowel sounds to the backness of the vowel sounds. Diphthongs are more problematic for them. Highly problematic Monophthongs are: /ʊ/, /ɒ/, /ʊ/ while less problematic Monophthongs are: /i:/, /ə/, /æ/, /ɑ:/. Monophthongs /ɜ:/, /ɔ:/, /ɪ/ are found unproblematic vowels for them. On the other side, highly problematic Diphthongs are: /aɪ/, /ɔɪ/, /ʊə/, /eə/, /aʊ/ while less problematic Diphthongs are: /eɪ/, /ɪə/, /əʊ/.

Psychological Factors Influencing Pronunciation

Classroom observation, Behavioral observation and semi structured interviews were part of study to analyze psychological factors influencing speaking ability with special reference to pronunciation of vowel sounds focusing monophthongs and diphthongs. An expert psychologist did behavioral observation throughout the conduction of experiments. Twenty participants were part of the psychological analysis in this phase of the study. In the light of behavioral observation and results of the pronunciation test using PRAAT, Six students were interviewed to have detailed analysis of their experience and the underlying psychological factors. Students for interviews were selected after careful observation of their behaviors throughout the session. Thematic analysis was used to interpret results of interviews. In this method, all the transcripts are coded and based on the interpretation of content, themes and sub themes are originated. Analysis based on both these methods is described below in detail.

Behavioral observation of the students revealed that some of them were experiencing high anxiety while performing experiments. Their body language and physiological changes in state were evident. Later on the results on pronunciation tests were matched. It indicated that the students who were observed as anxious, they were experiencing difficulty in uttering vowel sounds. Students who appeared to be more confident their performance was better on test. Some of them were lethargic and were showing least interested in whole process. Reflection of their behavior indicated lack of motivation. A few of them were very enthusiastic to perform test and they were also more helpful in building a positive environment. Peer pressure seemed to be a hurdle in performance on test and affects overall wellbeing of students including their healthy

relation with peers. One of them appeared to be over confident. His body language showed more movement around and a dominating posture. He appeared to have narcissistic tendencies. He was creating unrest for others. His results on test were below average which showed how he is not so interested in test and learning process overall. Rather he was problematic for others as well.

Thematic analysis of the interviews revealed lack of motivation, unhealthy environment, anxiety, fear of negative evaluation, lack of confidence and relationship with peers and teachers as major themes determining psychological factors influencing pronunciation.

Lack of Motivation

Students reported that they had less motivation towards speaking English. Overuse of Pashto made them less interested in learning language and pronouncing well. Replicating the context, a study described that motivation of the learner towards target language is something teachers has no control resulting in complicating the situation (Miller, 2003). Another study in Cihan University found that demotivation of students is a major cause of errors in pronunciation (Abdulwahid, 2023). Psychological needs for learning language makes students motivated to learn (Vadivel et al., 2022).

Unhealthy Environment

Students reported that environment at their college is not friendly. Backward area and poor thinking patterns prevail which affected their learning experience largely.

Anxiety

Most prevailing emotion was anxiety. When they could not utter words properly anxiety level raised and it affected further production of content. Further they described that good grades in past lowers anxiety to some extent. A research is in line with our finding explaining that anxiety do not let students speak in English class (Vadivel et al., 2022). Another study found that topic familiarity, self-efficacy and English grades affects English learning anxiety of students (Zhang & Han, 2021).

Fear of Negative Evaluation

Students further mentioned that they had fear about the outcomes. It was a major obstacle that they get bullied by their fellows if they pronounce wrong repeatedly. An article validates this theme which was on students in China found that negative self-evaluation of pronunciation of English impacted English as Foreign Language learners (AlSaqqaf et al., 2023). Another study found that there are psychological needs for learning language (Vadivel et al., 2022) so it puts pressure of evaluation.

Lack of confidence

Overuse of first language made them less confident to use English in their culture. Those who try to practice are made fun of which resulted in lowering their belief in themselves as a good learner in classroom setting and further diminishes the chances of good learning experience. A study on students found that negative self-concept of pronunciation of English affects EFL learners (AlSaqqaf et al., 2023).

Relationship with Peers and Teachers

Students had poor understanding with their class fellows. They told that teachers were not using good strategies to make students understand and practice well. A study in Cihan University found obstacles in teaching and learning phonetics in English as Foreign Language

learners' classroom. It found that less trained lecturers were a cause diphthongs were hard to learn and students and committing mistakes in pronunciation (Abdulwahid, 2023).

Use of multiple methods like general classroom observations, behavioral observation and semi structured interviews of participants to analyze psychological perspective made this study more useful. This way it validated the psychological analysis as the facts were repeatedly seen to be evident of how pronunciation of vowel sounds may have impact of different psychological factors.

There are different factors which affect correct pronunciation of vowel sounds. Overuse of mother language (L1) is an obstacle in learning the target language. Lack of knowledge of basics about phonetics and phonology. Absence of one-to-one correspondence of words and sounds cause difficulty. Syllabus in schools and colleges are not flexible enough to study transcription of words. Lack of suitable environment cause difficulty in pronouncing correct vowel sounds. Traditional teaching is an obstacle in the way of correct pronunciation. Psychological factors which affect correct pronunciation were identified. Traditional teaching method, lack of motivation, unhealthy environment, anxiety, fear of negative evaluation, relationship with teachers, peer pressure and lack of confidence are some of the important obstacles making learning correct pronunciation hard. A study on foreign language classroom anxiety supports worry-emotionality theorization of anxiety and found that fear of negative evaluation, communication apprehension, peer pressure and self-confidence in speaking English affects psychologically (Zhang & Lai, 2023).

Conclusion

The main purpose of this study was to analyze vowel sounds at Secondary Level students. After analyzing the Formant Frequencies F1 and F2 on a computer software, PRAAT, average Formant Frequencies F1 and F2 were calculated. These frequencies were tabulated and spectrograms of the vowel sounds were pasted. The second objective of the current study was to investigate the psychological factors affecting pronunciation of the college level students. It is concluded that the vowel sounds especially diphthongs and some Monophthongs are very problematic for the secondary level students in District Buner when these vowel sounds occur at the medial position in different words. Important factors which influence incorrect pronunciation were traditional teaching method, lack of motivation, unhealthy environment, anxiety, fear of negative evaluation, relationship with teachers, peer pressure and lack of confidence which are obstacles in the way of correct pronunciation.

Recommendations

This vowel based study investigated the analysis of problematic vowel sounds both Monophthongs and diphthongs at the medial position. This study analyzed the Formant Frequencies F1 and F2 of the target vowel sounds which shows height and backness of the vowel sounds respectively. It is recommended that the researchers should study F3 and F4 of the target vowel sounds. It is suggested that the target vowel sounds should be investigated at the initial and final position of different words. Other researchers should investigate the problematic vowel sounds for the Pashto speaking students of graduate and post-Graduate students. Moreover, researchers should study pitch and intonation of vowel sounds by Pashto speaking students. So that the existing research gap should be filled which the researcher left in this study.

Generally it is recommended for the concerned stakeholders that Post Graduate Diploma (PGD) in TEFL should be made compulsory and mandatory for the teachers teaching English in

schools and colleges. Or at least 3 month simple certificate of phonetics and phonology should be made compulsory for the all types of English teachers. Teaching is a process to be updated with the passage of time. Traditional teaching should be discouraged. The government of KPK should make an agreement with the RELO Pakistan or any other related organization to train the teachers about the basic knowledge of phonics.

Psychological perspective on pronunciation ability is under studied in Pakistan. This study is a little effort to give some insight on Pashto speaking students. Participants from other provinces should also be studied. Students learning English as second language should be encouraged. Psychologist should be inducted and sought help from time to time for resolution of related issues. Intervention plans should be employed. Interviews were taken from students. To have complete picture teachers should also be part of study.

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