Technology-Assisted Approaches To Enhance Phonological Awareness In English Language Learning: Case Studies Of Secondary Schools In Punjab, Pakistan

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Abstract
This research investigates the efficacy of technology-assisted approaches in improving phonological awareness among secondary school students learning English in Punjab, Pakistan. Phonological awareness, crucial for proficient language acquisition, often poses challenges due to regional linguistic variations and educational disparities. The study employs a mixed-methods approach, combining quantitative assessments of phonological skills with qualitative insights from educators and students. Case studies from selected secondary schools in Punjab explore the integration of digital tools such as educational apps, interactive software, and[1] multimedia resources into language instruction. Results reveal significant improvements in students' phonetic accuracy and pronunciation proficiency following technology-supported interventions. Moreover, the research examines socio-economic factors influencing access to and utilization of technology in educational settings. Findings underscore the potential of technology to bridge educational gaps and enhance language learning outcomes in diverse cultural contexts. Implications for educators and policymakers highlight the need for strategic integration of technology in curriculum development to foster phonological awareness and linguistic competence among secondary school learners.

Keywords: Phonological awareness, Technology-assisted learning, vowel articulation, Socio-economic factors, Educational technology.

Introduction
A large number of students who wish to study abroad have to acquire IELTS certificate. Overall performance of our students in IELTS test is not good owing to faulty pronunciation of English words i-e in the speaking section of the test. Teaching pronunciation has always been neglected in this part of the world. The pronunciation of both the students and the teachers of English language in Sialkot is not good. The students in Pakistani educational institutions, usually, do not have a suitable environment where they can speak or use English language. Sound rules can be learned by the learners after they practise. After having knowledge of sound rules, mispronunciation of English words by secondary school teachers and students can be minimized. Without proper exercise, the learners are always shy of speaking English when they are asked to do so before an audience.

They help their children a lot in their pursuit of getting up to date knowledge. Moreover, those parents who enjoy social and economic status in a community prove to be a

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blessing in disguise for their offspring. The young ones have better approach to good institutions and teachers. Plomin (1989) held the view that the children of intelligent and educated mothers are automatically at the advantage of having better capacity of learning new things. This 'genetic' factor helps the children in the long run. The situation of pronunciation is somewhat better in English medium schools because they hire qualified English language instructors and arrange trainings for their staff from time to time in order to equip the staff with the latest trends of teaching English. Unluckily, the kids with poor background have no access to these English medium schools. The higher graduation success rates are directly associated with good socioeconomic condition of parents. The offspring of the parents with low socioeconomic background bore low success rates at graduation level (Carpenter, Hayden & Long, 1998). There are many things that must be kept in mind when somebody attempts to gauge the educational achievement of the students in connection with the role and importance of parenthood in the learning process. The income and adopted professions of parents cannot be studied alone in this regard. The other things that need to be considered in this regard are "sex, unexplained absences, ethnicity, parental educational attainment, housing type and student age as reflected by school level" (Considine & Zappala, 2002).
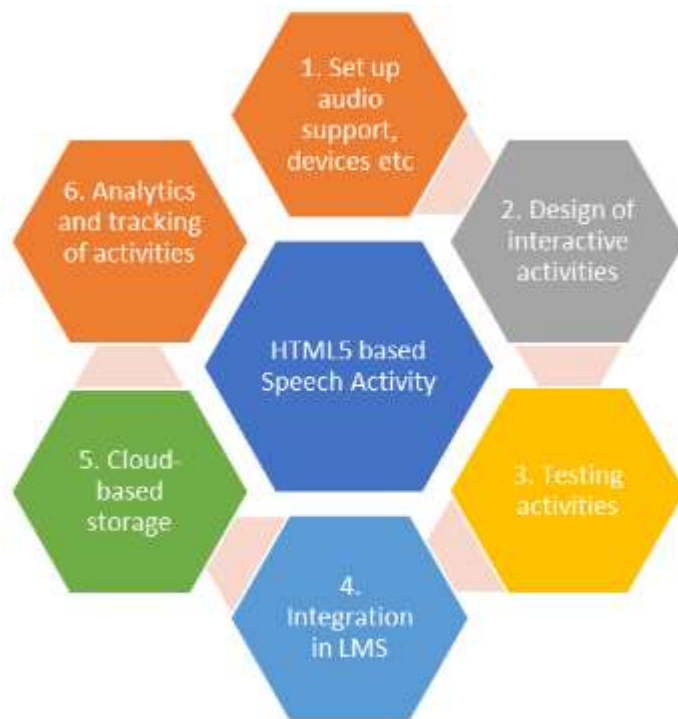
They give attention to only those aspects of English pronunciation which they think to be the need of the students in the classroom. Teachers emphasize the segmental side of pronunciation thus completely ignoring supra-segmental features of speech. The need of the hour is that English instructors develop such pronunciation exercises and activities as help the students in their pursuit of learning good pronunciation of English words and sentences (Ahmad, Barki & Shakir, 2015).

Makunja (2016) emphasized that attempts must be made for active participation of teachers in the formulation of review committees where curriculum for a certain education level is to be decided, reviewed or changed. This practice will help all the people in solving the chaotic and dismal situation which the students and teachers are facing in the English language classrooms. Teachers' participation in the curriculum committee will improve the overall teaching learning process because the teachers will be in a good position to develop and implement the curriculum effectively in the classrooms. Seyedabadi, Fatemi and Pishghadam (2015) stated that during the course of English training sessions, the teacher trainers should emphasize the crucial role of pronunciation to the participant teachers. Helping material related to the topics of phonetics and phonology should be provided to the participants in order to increase their knowledge of production and comprehension of English sounds. They must be told that both segmental and suprasegmental features of language should be taught to the students because both these are necessary for good and intelligible communication in English. The syllabus designed for the students must put emphasis on the importance of English sounds. The wants of the learners must be kept in mind while developing the material for the classroom usage by the committee responsible for curriculum designing. Pronunciation improvement may need a number of authentic classroom activities and interesting drills after initial introduction of lesson in order to make the learning process a success for both the instructors and the learners.
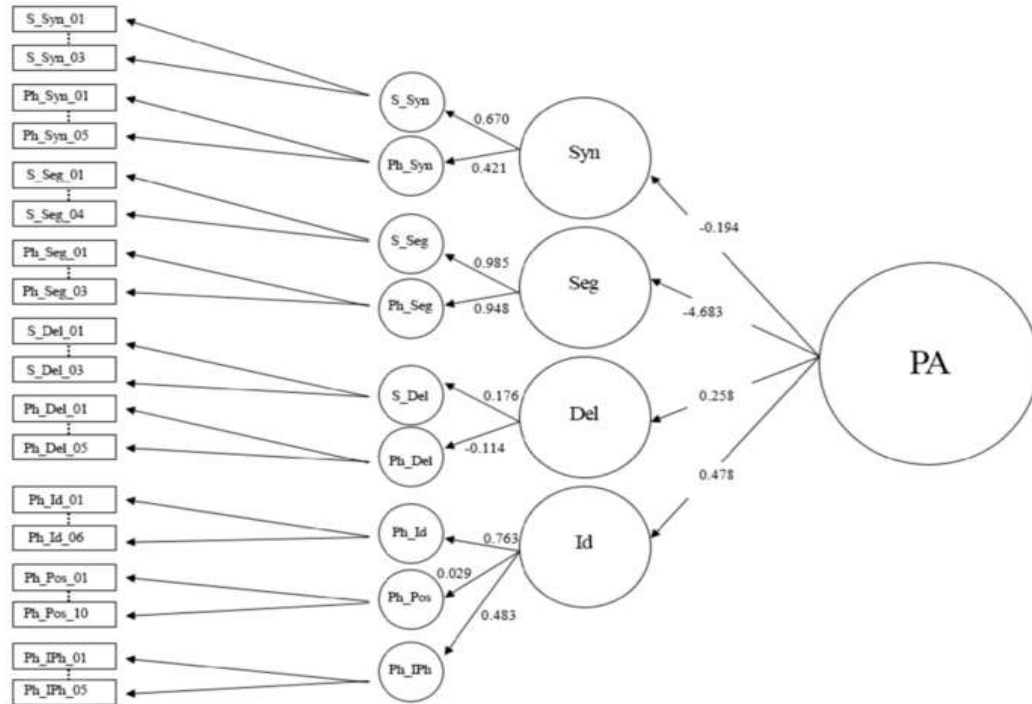
Model 3, The dimensionality of phonological awareness/PA phonological awareness, S_syn

The English teachers are generally aware that their teaching does not suffice the social demands which a society puts on English instructors but they do not know what to do in the classroom to better pronunciation of the students. The teachers must be trained in the field of practical phonology so that they know how to prioritize their energies instead of wasting the available time in covering all the sounds that exist in English language. Prosody should also be given due weightage in the teaching-learning process. Drills and activities of individual independent sounds do no good because pronunciation without prosody leads the students nowhere. The developers of learning materials should try that the lessons and the pronunciation skills are highly integrated. In doing the lesson, students should be able to learn pronunciation as well. The teachers rely on English textbooks for the lectures. If the pronunciation parts are dealt with as a separate entity and are not related to the whole lesson, the required result cannot be achieved. Kanellou (2011) stated that EFL teachers should possess appropriate qualifications for teaching of English subjects by integrating HTML5 Based Speech Recognition Framework, illustrated below:

1. Set up audio support, devices etc

2. Design of interactive activities

3. Testing activities

4. Integration in LMS

5. Cloud-based storage

6. Analytics and tracking of activities

HTML5 based Speech Activity

Integrating HTML5 Based Speech Recognition: Framework

Pronunciation is a method of producing certain sounds (Richards & Schmidt, 2010). Pakistani students do not know how to produce certain English sounds correctly. They have faulty pronunciation because they do not perceive difference of sounds in the delivery of certain syllables of words. They pronounce the last syllables in 'relaxation', 'citation' as / ʃən/. They do the same in 'suggestion', 'digestion', 'congestion' and pronounce the last syllables in these words as / ʃən/ instead of /tʃən/. The students who wish to study abroad have to acquire IELTS certificate. Overall performance of students in IELTS test is not good in the speaking section of the test because they cannot speak good English. The main stress in Pakistani classrooms is on reading and writing whereas it should be listening followed by speaking. Utmost attention is required to teach the speaking skill to EFL students and make them good speakers of English language (Richards, 2008). Danielson and Hayden (1961) suggested that the teaching of language skills should follow this pattern: listening, speaking, reading and finally writing. English enjoys the position of an international language and thus it has a universal culture. The Pakistani universities in general and the young generation in Pakistan in particular, want to achieve status and universally acknowledged academic excellence after having command over English language pronunciation. The fulfilment of this dream can only be realized if there are good English language instructors in Pakistan. Fraser (2000) emphasized that good pronunciation, despite other errors, is a must for intelligible communication. Because of its status as a lingua franca throughout the world, teaching and learning of English language is very important now-a-days. In order to be a good listener and speaker of English, the problematic sounds, a hindrance in achieving language proficiency for our students, must be taught in a comprehensive manner. For this, provision of competitive language teachers, latest trainings and friendly practical environments are very crucial. The teaching of English pronunciation should be given high priority by good English language teachers (Wahab, 2019).

1.1 Statement of the Problem

Mispronouncing words in English is a common occurrence among EFL learners. The sounds of the language in question must be acquired by second language learners in order to improve L2 pronunciation. To do this, a thorough examination of the problematic English sounds is necessary in order to give these sounds the attention they deserve and enhance the creation of sounds in second languages. When speaking or reading in English, the majority of terms are mispronounced by secondary school pupils in our nation. It is essential to analyze incorrect English sounds and eliminate them from secondary school students' speech since this is the only way to help them get better at pronouncing words correctly before moving on to higher education. The only way to help secondary school pupils improve their English pronunciation before they graduate or go on to a higher secondary school is to analyze their speech and eliminate any incorrect English sounds. The goal of the current study is to examine the troublesome English sounds that lead to secondary school students in the Sialkot district mispronouncing English words. This study has also addressed the reasons behind secondary level students' phonetic disparities in English as well as solutions for eliminating challenging English sounds from secondary level students' speech in the Lahore district.

1.2 Objectives of Research

1. To analyze faulty English sounds for secondary level students in district Lahore, in the light of Received Pronunciation (RP).
2. To find out the causes accountable for bad English pronunciation of secondary level students in district Lahore.
3. To suggest some remedies to English language instructors for rectification of incorrect English pronunciation of secondary level students in district Lahore.

1.3 Research Questions

1. Which of the English sounds cause problems for secondary level students in district Lahore?
2. What are the causes of phonetic discrepancies in English among secondary level students in district Lahore?
3. What remedial measures can be adopted by the students and the English teachers in the district Lahore to avoid mispronunciation of English sounds?

1.4 Hypothesis

Trained teachers can eliminate Pakistani students' incorrect English pronunciations.

1.5 Significance of Research

English word mispronunciation makes it harder to understand what is being said. Word meanings can be altered by subtle variations in how English phonemes are pronounced. For example, secondary school pupils in district Lahore pronounce the phrases quiet and quiet as /kwaɪt/. They are unable to understand that the addition of the phoneme /ə/ can alter the meaning. Thus, when the word "quiet" is pronounced as /kwaɪt/ rather than /ˈkwaɪət/, the listener misinterprets what is meant to be said. The terms "liar" and "lawyer" should be pronounced similarly. It is unclear to the listener if they are discussing a "liar" or a "lawyer." Instead of pronouncing the word "lawyer" as /lɔːjə/, they pronounce it incorrectly as /laɪə/.

Pronouncing English words "correctly" is essential to the teaching-learning process. In terms of the teaching-learning process in the English classroom, pronouncing English words correctly is essential. Pronunciating English incorrectly in the classroom has a significant impact on students' academic careers. The secondary education level forms the foundation of students' lives. They will feel comfortable at advanced levels if they improve their

pronunciation of the English language at this level. They will have to improve their English speaking at some point if they are not proficient at it now. It is best for them if they fix their pronunciation of English terms as soon as possible.

2. Literature Review

The first language background has a big impact on how English word pronunciation is learned. Certain specialists believe that if one cannot pronounce words clearly, one cannot communicate. Thus, effective English language communication requires precise word utterance. Speaking a foreign language is influenced by one's mother tongue speech patterns, according to Singh (2017). According to Kalaldeh (2016), pronunciation problems can be traced back to specific sounds in English words, and it can be very beneficial for both teachers and students to recognize these sounds. When pronouncing English words, these speakers add the schwa /ə/ sound at the beginning, middle, or end. They speak English words incorrectly by substituting specific vowel sounds.
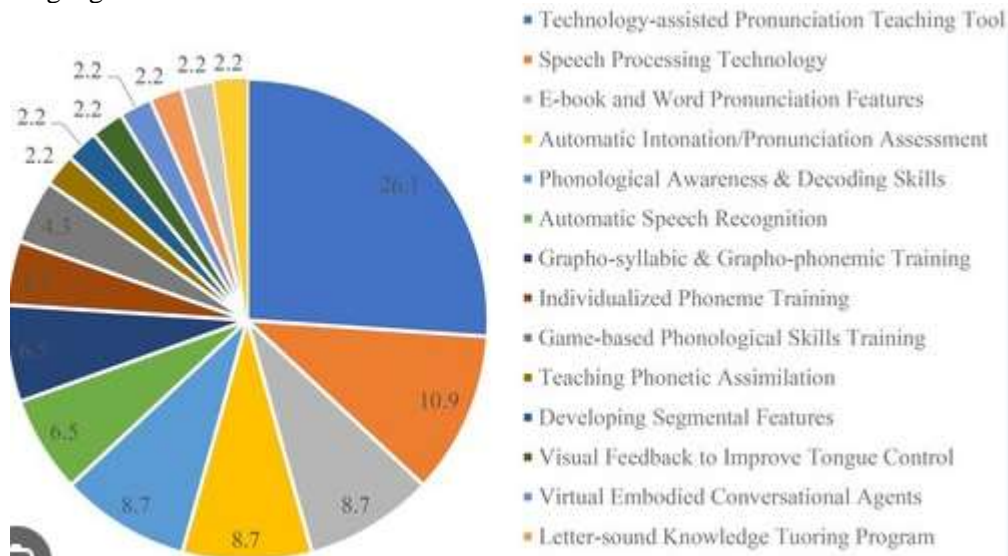
The second language learners cannot perceive the difference between the sounds of their L1 and L2. First language interference plays a major role in the wrong pronunciation of English words, phrases and sentences. It is very difficult for the speakers of a language to avoid the sounds of their mother tongue when they are trying to learn English as a second language. The teachers of English must train their students in the right use of the speech organs, especially in the production of diphthongs. The students of English tend to mispronounce English words when two vowel sounds come together in a word. Mispronunciation of English vowels happens because English instructors do not pay proper attention to the teaching of pronunciation in the classrooms. Suitable environment must be provided to the students so that their English pronunciation improves with the passage of time. The use of Audio-visual aids and motivation can be beneficial for the students in improving their English pronunciation. Teachers should equip themselves with the knowledge of phonetics and phonology in order to guide the students in a befitting manner. English teachers should draw mouth diagrams in order to teach their students the place and manner of articulation of different English sounds. This practice makes the teaching of pronunciation somewhat interesting for the students (Awan, Ayoub & Bashir, 2016).

Generally, the EFL students are not willing to perform in group work. Out of four English skills, the speaking skills are the most difficult for second language learners. The students' performance depends mainly on expression of individuals in various academic disciplines and professional environments. Good speaking skills add to the ability of an individual. Thus, English speaking skills of EFL students need to be improved.

Javed and Ahmad (2014) concluded that pronunciation is the key to successful communication in English language. Without good pronunciation, the problem of communication occurs. The male and female participants in the study were able to pronounce easily the words with one, two or three syllables. They also did well in the stress and intonation department. Interrogative sentences were delivered by them quite effortlessly. They found difficulty in the production of diphthongs, triphthongs, imperative and exclamatory sentences. Tongue twisters were not articulated well by the participants. The study recommends that ESL students and teachers should try to correct their English pronunciation because it is the need of the hour. Without good English pronunciation, modern education will have to suffer a lot and the dream of advancement will remain a dream. Mahmood, Asghar and Jabeen (2011) stated that the production of consonant sounds of /θ/ and /ð/ is a problem for English learners in Pakistan. Pakistani speakers tend to produce sounds of /th/ and /d/ replacing the English consonant sounds /θ/ and /ð/. The speakers are ignorant of the fact that English sounds of /θ/ and /ð/ phonemes are not similar to /th/ and /d/ sounds in Urdu.

Although they share the same place of articulation, their manner of articulation differs. Interestingly, /th/ and /d/ sounds in Urdu are very near phonetically to /θ/ and /ð/ phonemes in

English. Pakistani English speakers should try to pronounce /θ/ and /ð/ sounds as 'dental fricatives' instead of 'dental plosives' (as they do in the case of production of /th/ and /d/ in Urdu). Begum and Hoque (2016) argued that the teachers of English should use L2 input more and more as far as the pronunciation of English is concerned. The minimum use of L1 encourages the learners to express themselves in English. The modern instruments which can aid in the achievement of good pronunciation must be used in the classroom. Suprasegmental items should be an integral part of English teaching methodology. English instructors should have good knowledge of phonetics and phonology before entering the class. Spoken English courses can be a good idea in order to improve the pronunciation level of the learners. Since English has got the status of a global lingua franca, the English speakers must try to come very close to standard English pronunciation so that their communication in English is successful wherever they go in the world. L1 interference creates many problems for the new learners of English. The English teachers should instruct the students to have a balanced idea of the sound systems of both L1 and L2. This approach can make the situation less frightening for English learners in the field of pronunciation. Only good pronunciation leads to fluency in English language.

- Technology-assisted Pronunciation Teaching Tool
- Speech Processing Technology
- E-book and Word Pronunciation Features
- Automatic Intonation/Pronunciation Assessment
- Phonological Awareness & Decoding Skills
- Automatic Speech Recognition
- Grapho-syllabic & Grapho-phonemic Training
- Individualized Phoneme Training
- Game-based Phonological Skills Training
- Teaching Phonetic Assimilation
- Developing Segmental Features
- Visual Feedback to Improve Tongue Control
- Virtual Embodied Conversational Agents
- Letter-sound Knowledge Tuoring Program

Safaa (2015) discussed the background knowledge of English language highlighting the major differences between British and American English. The researcher tried to draw conclusion by focusing on differences between two English varieties based on phonological, grammatical and semantic level. The EFL students' response to the same English words pronounced differently in British and American societies were observed through various games and tasks. The majority of the students agreed to the idea that American English is more beneficial for them in learning because they found American accent easy. For example, the word 'water' is pronounced as /wɔːtə/ in British English and /wɑːtər/ in American English. The students preferred American pronunciation of 'water' because they produced the /ɑː/ sound smoothly while /ɔː/ sound was much difficult for them to produce. The students used American vocabulary words more than the British vocabulary words. They wrote 'colors', 'humor', 'honor' instead of 'colours', humour' and 'honour'. The EFL teachers also have a general agreement that the usage of American variety in more beneficial and useful for their students in the English language classrooms.

English diphthongs create a great deal of difficulty for those Punjabi speakers in Pakistan who are EFL learners. They face problems in the articulation of diphthongs. The

gliding nature of diphthongs makes them hard for Punjabi EFL learners to pronounce. Most of the Punjabi speakers produce diphthongs wrongly. If they are asked to transcribe diphthongs phonetically, they are not as much confused as they are when they try to pronounce diphthongs verbally. They committed mistakes in the production and phonetic transcription of diphthongs. The speakers should keep in view the length and height of the tongue and the rounding of the lips in the production of English diphthongs. English consonants are easy for Pakistani speakers to pronounce correctly but they feel difficulty in the articulation of English vowel sounds, especially the diphthongs. Verbal and written exercises in the classrooms are perfect for teaching and learning problematic English vowel sounds. The minimum use of Punjabi sounds and increasing presence of English vowel sounds in the verbal practice ultimately prove to be very beneficial for Punjabi speakers of English (Shahzada, Mahmood, Uzair & Khan, 2014).

Majoka, Khan and Khan (2016) concluded that English teachers lack knowledge of production of English sounds. They do not receive extensive training on the art of producing English sounds correctly. The difference between phonetics and phonology is not clear to them. They do not know the modern technologies which can really help the learners in improving their pronunciation of English sounds. Pakistani English teachers are aware of the fact that regional languages do have influence on second language acquisition but they are unable to tell precisely how this phenomenon occurs. They are not willing to take practical steps for self-improvement as far as learning of correct English sounds is concerned. They don't use paper-based or software-form English dictionary to refer to English pronunciation. They don't listen to English news to get themselves acquainted with correct production of English sounds. Mostly, GT method of teaching is used in collaboration with teacher-centered approach in the classrooms. The main focus of English teachers is on grammar, reading and writing. Finishing of syllabus is their main concern. Nobody is ready to pay attention to English pronunciation. The researcher has recommended extensive training for teachers of English.

In the opinion of Ahmad (2011), pronunciation happens to be the most important of all the language skills for successful communication among speakers who do not share L1. Besides the teaching of writing, reading and grammar, English pronunciation should receive the maximum attention of the teacher because correct pronunciation is not an easy task for the students who have become accustomed to the sounds of L1. Learning and articulation of new foreign sounds need regular exercise and practice on the part of the students in order to achieve perfection or, at least, getting very close to the native speakers of target language. This research focused primarily on consonant sounds as produced by Saudi learners. The production of consonant phonemes /d/, /p/, /v/, /ʒ/, /tʃ/, and /ŋ/ seemed to be a major problem for them. The participants produced /d/ as /b/ in their English speech because the sound /d/ does not exist in their Arabic language. They replace the /v/ sound with /f/ and /tʃ/ with /ʃ/. They sometimes replaced the sound /ʒ/ with /z/, /ʃ/ or /s/. Some of the participants substituted the /ŋ/ sound for /n-k/. The impact of L1 on L2 is apparent here. Suzukida (2017) tried to observe the efficiency of foreign language learners, Japanese students in this case, in the speaking section of IELTS test. The Japanese students committed errors in the articulation of English phonemes / r, l, v, ð/ by putting vowel sounds after consonant sounds. Japanese students articulated English and Japanese sound mixtures instead of producing English-specific consonant cluster sounds. The influence of L1 forced these students produce erroneous English sounds. This happened because of some specific English sounds which were not present in the Japanese phonetics.

These errors disappeared with the level of advancement in English learning. The Japanese students who had extensive training of English language and pronunciation showed less influence of L1 in their speech when they produced L2 sounds. They also committed word-stress errors in their spoken English test. They stressed the English words the same way as they stressed the Japanese words. This trend had a bad impact on their score in the IELTS test. Word stress-errors were common to all levels of learning. Even the advanced level students committed the errors of stress. L2 instructors should have in mind that the effect of L1 can have

a negative impact on the overall scoring in IELTS test. Any foreign language learners or IELTS test-takers, Japanese are no exception, should be aware of L1 influence on L2 in the departments of sound production and word-stress.

Zulkurnain and Kaur (2014) discussed various strategies which are helpful for removing the communication difficulties that exist among the speakers who speak English as a second language. The study suggests that learning should be task-based. Real life-like situations really help EFL learners in improving their communication ability. Classroom activities which have problem-solving approach provide the students with a chance to enhance their understanding of how English can be used in real interactive environments. The English teachers should focus their attention on those communication strategies which are essential for a speaker to be a good listener and speaker of English. Communication strategies should be regarded as a natural way of inculcating a sense of awareness among the second language learners about the methods which enable the students to listen and speak good English. Suleman, Hussain, Khan and Nisa (2012) commented that low social and economic position of parents has a very negative impact on the academic performance of secondary level students. The students with poor economic background show lower academic achievement as compared to those who have rich parents for their support. The rich parents offer better facilities of learning to their kids whereas the poor students are not even equipped with basic necessities of life and learning. Educated parents are also a crucial factor when it comes to the matter of guiding and planning for the future of kids. Higher educational achievements are linked to those students who have well-educated parents whereas the illiterate or uneducated parents cannot plan and guide their kids towards a good future. The poor students have to struggle hard in order to succeed in life. Thus, social inequality of wealth and power also plays a vital role in the educational upbringing of children along with many other important factors.

Raza (2008) stated that with the help of appropriate strategies, ESL teachers can teach pronunciation to adults in Pakistan without much difficulty. The learners must be provided with suitable environments where they can speak English and attain fluency before getting them confused with English spelling. Computer software and interactive exercises can be very helpful in teaching pronunciation to the learners. Larger structures of language like phrases, clauses and sentences should be focused more by giving more importance to intonation and stress patterns. This approach will help learners in attaining fluency in English speaking. In order to teach contrasting sounds, pairs of phonemes should be taught at a later stage so that students can differentiate between two distinctive sounds in English. Need-based teaching is more effective in teaching pronunciation to Pakistani students. Only those areas should be focused which really need to be addressed to make the pronunciation of learners better. Butt and Mahmood (2016) commented that Punjabi and English are two different languages. The knowledge about one language does not automatically help learners speak the other language easily. Punjabi speakers cannot pronounce majority of English words with proper stress because they put stress on English words the same way as they put it on Punjabi words. The suprasegmental features of Punjabi language do not help students in the suprasegmental characteristics of English. The researchers suggest that English instructors should devise special drills in order to teach pronunciation and stress of English words and sentences to foreign language learners. The rules of stress, though not many of them are available, should be told to the learners. One such rule suggests that 'schwa' is never stressed. The students should be asked to loud-read a piece of text before an audience so that they can have an idea of how to stress English words. Bingjun (2013) observed that the effect of L1 on L2 can be either positive or negative. It depends on the learners or the instructors whether they take things positively or negatively. This study supports the role and positive impact of L1 in the learning of L2. During the span of EFL instruction, only those aspects of L1 which are helpful in learning of L2 should be kept in mind by the instructors and the learners. This positive image

of phonetic and lexical transfer really enhances the chances of learning a foreign language fast. Negative impact of L1 on learning of L2 should be neglected.

Memon, Joubish and Khurram (2010) argued that the education standard between public schools and private schools is becoming wider and wider with the passage of time. The students of private schools learn things quickly and their academic achievement is greater as compared to the achievement of those students who are studying in the public schools. Private school students show better comprehension of English sounds. The basic difference is the trained teachers of private schools versus untrained teachers of public schools. Trained teachers of private institutions are better instructors of teaching English sounds to their students. The students of both public and private schools should be offered the same syllabus for study. The objective-oriented syllabus can be helpful in improving the English-speaking ability of the students.

This trend is not helpful for oral English communication skills of EFL students in Pakistan. In order to achieve better results in the field of teaching and learning of English language effectively in our educational institutions, there must exist a 'coherence' between the announced educational policy by the government and its practical implementation in the English language classrooms. Islam and Akteruzzaman (2016) argued that long-term use of certain sounds in the mother tongue acts as a hindrance for the EFL students in the production of acceptable sounds in the target language i-e English. Regretfully, the students who get good grades at secondary and higher secondary levels do not do good in the basic English courses at university level. This happens because more emphasis is given to writing and reading skills in pre-university education. All the four skills are not given full attention by English instructors at school level. The researchers suggest that trainings should be arranged for teaching of four skills of English. Listening and speaking should make a necessary part of academic instruction at secondary and higher secondary levels. The management bodies of educational institutions pay more attention to infrastructure rather than focusing on professional trainings to their English teachers. Language laboratories and provision of language software in educational institutions can make a big difference in improving the production of L2 sounds by the EFL students. If teachers do not have acceptable fluency in all the four English skills, they cannot be said to be good English instructors. The selection criteria of English teachers must be set keeping in view their expertise in the four English skills. Without good English teachers, the learners cannot be able to produce correct sounds in L2. The use of teaching aids must be made compulsory for the teachers of English in the classrooms. If the teachers make the teaching-learning process of English interactive, the students will be in a better position to produce L2 sounds in an acceptable way.

Sara (2015) was of the opinion that the teaching of English pronunciation is not emphasized by the English instructors in the schools. Traditional and outdated approaches to pronunciation teaching are adopted by the teachers in schools. The time allotted to teaching of English pronunciation in the classroom is insignificant. One of the main hinderances in the way of correct English pronunciation is the local accent of English instructors and learners in Sylhet. The school management must allocate sufficient time for teaching English pronunciation in the classrooms. Only those teachers should be recruited who have good command over English pronunciation and are well-versed in English communication skills. Trained teachers are in a better position to teach pronunciation to school level students. Language workshops and seminars can be organized for the students to develop their interest in the use of English language. New approaches and methods of teaching pronunciation should be applied by the English teachers in the English language classrooms for better results.

3. Research Design and Methodology
This study used a research approach that combined qualitative and quantitative paradigms. This involved gathering and analyzing information from interviews as well as non-numerical (non-

statistical) sources. The mixed-methods framework employed a concurrent embedded technique. Both quantitative and qualitative data are simultaneously collected during a single period of data collection in the concurrent embedded technique. This technique differs from the standard triangulation model in that it assigns a primary focus to one method and a supplemental function to the other (Creswell, 2009, p. 214). The primary research strategy for this study was the qualitative method, with supplementary support from the quantitative method.

3.1 Population and Sampling Techniques

According to Richards and Schmidt (2010), a population is "any set of items, individuals, etc. that share some common and observable characteristics and from which a sample can be taken." The population of this study consisted of male and female secondary level public and private schools in the Sialkot district. A sample is made up of individuals or items that are typical of the population. The convenience sample approach was used for the study in consideration of the participants' reluctance. Convenience sampling was used to choose eight male and seven female secondary government and private schools in the Sialkot district in order to collect data. The study's sample size comprised 60 students from the 10th grade, 32 of whom were male and 28 of whom were female. For this study, 60 students from the 10th grade—32 male and 28 female—as well as 15 English language teachers made up the sample size. Four students from the tenth grade and one English teacher were chosen at random from each school using convenience sampling. The researcher and the willing participants signed a consent form guaranteeing the privacy of their opinions and personal information.

3.3 Data Collection Instruments and Data Analysis Procedure

The study employed "structured interviews" and "audio recordings" as research instruments. "A solid board is necessary for a good business, just as a good gavel is necessary for a good job interview" (Patton, 2002, p. 380). Participants in the study had their English talks recorded on a mobile phone (Nokia 3.1 Plus). The English textbook for class 10 (Punjab Textbook Board Lahore, 2017–2018) had forty-nine (49) English words.vowels, diphthongs, triads, and sounds are all present in these words. In order to pinpoint the problematic English voices of secondary school pupils in the Sialkot district, these recorded voice samples are examined closely. Students' frequency and proportion of words uttered "correctly" were ascertained using SPSS (version 26). Pronunciation "correction" was examined using the information obtained the Cambridge English Pronunciation Dictionary's definition of received pronunciation (RP) was used for analysis (Cambridge English Pronunciation Dictionary CD-ROM, 2011). According to Cousin (2009), p. 71, "structured interviews allow researchers to create in-depth stories about individuals' experiences and perceptions." The investigator employed "structured interviews" to elicit open-ended questions from English teachers (participants) in order to obtain understanding of the causes of secondary school students' faults in English speaking in the Sialkot district. Ten "pre-orders" and a few questions were discussed. Researchers were able to determine the causes of the high school pupils in the Sialkot district's weak communication abilities thanks to information gathered from the interviews. The panelists also speculated that there might be a means of encouraging English in Pakistan as a second language.

3.4 Delimitations

Out of a very large population size, the researcher delimited the sample size to only 15 government and private secondary level schools and 60 students of 10th class in district Sialkot. Only 04 students of 10th class and one English teacher were selected as participants from each school.

4. Results of Data Analysis

4.12 Long Vowels in English /iː ɜː uː ɔː ɑː/

All the participants (100%) pronounced the /i:/ sound in /ki:p/ accurately. Fifty-two (86.66%) participants out of 60 did not aspirate the /k/ sound in /ki:p/. The /ɜ:/ sound in /ɜ:θ/ was pronounced rightly by all the participants. Forty-six (76.66%) participants produced the /r/ sound in the production of /ɜ:θ/. Fifty-eight (96.66%) participants had problem with the correct pronunciation of /θ/. They pronounced the English dental sound /θ/ as the 'ٹ' sound (an alveolar stop sound in Urdu). Here, first language interference causes trouble for the participants in the correct pronunciation of /θ/. The /u:/ sound in /ʃu:t/ was pronounced accurately by 56 (93.33%) participants. Two participants exchanged the /u:/ sound with /ɑ:/ sound. One participant exchanged the /u:/ sound with /ɒ/ sound while one participant pronounced it as a short /u/ sound (short /u/ sound is not present in RP English sounds). One participant over-aspirated the /t/ sound in /ʃu:t/. The /ɔ:/ sound proved to be one of the difficult sounds for the participants to pronounce. None of them was able to produce this sound correctly.

4.13 English Diphthongs /eə ʊə ɪə eɪ ɔɪ aɪ əʊ aʊ/

The word 'pair' is pronounced as /peə/ in British English. All the participants (100%) mispronounced the diphthong /eə/ in /peə/ by replacing the correct /eə/ sound with another diphthong /ɪə/. Fifty-six (93.33%) participants /peə/ while 37 (61.66%) participants pronounced. The pronunciation of 'pure' is /pjʊə/ or /pjɔ:/ in British English. Fifty-three (88.33%) participants pronounced the word 'pure' correctly. Fourteen (23.33%) participants pronounced 'pure' as /pjɔ:/ while 39 (65%) participants pronounced it as /pjɔ:r/. Nobody pronounced it as /pjʊə/ and avoided the diphthong /ʊə/ by replacing it with the monophthong /ɔ:/. Forty-six (76.66%) participants pronounced the sound /r/ at the end of the word 'pure' while 52 (86.66%) did not aspirate the /p/ sound at the initial of /pjʊə/ or /pjɔ:/. Seven participants changed the correct pronunciation /pjɔ:/ or /pʊə/ with /pu:ər/, /pu:ər/, /pi:ər/, /pɔ:r/, /pɔ:/, /piɔ:r/ and /pɔ:ər/ respectively. Only 10 (16.67%) /. Fifty (83.33%) participants substituted the diphthong /i:ə/ in place of /ɪə/. Fifty-three while 55 (91.66%) pronounced the /r/ sound at the end of 'clear'. All the participants (100%) pronounced the diphthong /eɪ/ in /eɪbəl/ incorrectly. They replaced /eɪ/ with /e:/ or /ے/ (a vowel sound in Urdu). The /ɔɪ/ sound in /pɔɪnt/ was mispronounced by 55 (91.66%) participants. They pronounced /pɔɪnt/ as /pɔaɪnt/, changing the diphthong /ɔɪ/ with a triphthong /ɔaɪ/. Fifty-five (91.66%) participants did not aspirate /p/ at the beginning of /pɔɪnt/ while four participants over-aspirated the /t/ sound at the end of it. The /aɪ/ sound in /raɪtɪŋ/ was pronounced as /rai:tɪŋ/ by 59 (98.33%) participants. They replaced the short vowel sound /ɪ/ with the long vowel sound /i:/ while 10 (16.66%) participants pronounced the second syllable in 'writing' as /ɪŋg/ instead of /ɪŋ/. The /əʊ/ sound in /əʊn/ was pronounced correctly by 17 (28.33%) participants. Thirty-one (51.66%) participants replaced the /əʊ/ sound with the /ɔ:/ sound while 10 (16.66%) participants produced the monophthong /ɒ/ in place of the diphthong /əʊ/. Two participants pronounced /əʊn/ as /əvən/. The diphthong /aʊ/ in /haʊ/ was pronounced rightly by 24 (40%) participants. Twenty-eight (46.66%) participants pronounced /əʊ/ in place of /aʊ/ while three participants replaced the /aʊ/ sound with /u:/ sound. Five participants substituted the /ɔ:/ sound for /aʊ/ sound.

4.14 English Triphthongs /aʊə əʊə ɔɪə eɪə aɪə/

There are two pronunciations of the word 'flower' in British English (RP), /flaʊə/ and /flaʊə/. If it is pronounced as /flaʊə/, it has two syllables /flaʊ.ə/ but it is treated as having one syllable if we pronounce it as /flaʊə/. Majority of the English speakers pronounced it as a one syllable word pronouncing it as /flaʊə/ (having one syllable). Out of 60 participants, 56 (93.33%) could

not pronounce the word 'flower' correctly. Only four participants pronounced it accurately, three pronounced it as /flaʊ.ə/ and one as /flaʊə/. Forty (66.66%) participants pronounced 'flower' as /flɑːwər/, four as /flɑːwə/, and twelve as /flɑːr/. The sound /r/ at the end of 'flower' was pronounced clearly by 52 (86.66%) participants. The triphthong /əʊ.ə/ in 'lower' was pronounced correctly by 11 (18.33%) participants. Eight (13.33%) participants pronounced /ləʊ.ə/ as /ləvər/ while 20 (33.33%) mispronounced it as /lɔːər/. Five participants mispronounced /ləʊ.ə/ as/lɔːɪər/, six as /lɔːə/, one as /lɔːvər/, one as /lɔːɪ/, one as /laɪ/, one as /laɪr/, two as /laɪər/, two as /lɔːr/, one as /lɑːvər/ and one as /lər/. Forty-six (76.66%) participants pronounced /ləʊ.ə/ as /ləʊ.ər/, clearly pronouncing the /r/ sound which is not pronounced in British English (RP). The word 'employer' is pronounced as /ɪmplɔɪ.ə/ or /emplɔɪ.ə/ in British English (RP). The triphthong /ɔɪ.ə/ in 'employer' was pronounced correctly by 17 (28.33%) participants, out of which ten produced the /r/ sound at the end of 'employer'. Eighteen participants mispronounced 'employer' as /ɪmplaɪər/, six as /emplaɪər/, three as /ɪmplaɪə/, two as /əmplaɪər/, two as /emplɪɔːr/ one as /emplɒɪə/, one as /emplɪər/, one as /emplɔːər/, one as /emplɪʊər/, one as /emplʊər/, one as /ɪmplaɪ/, one as /emplaɪər/, one as /emplaɪə/, one as /emplɪʊər/, one as /emplu:lər/, and one as /ɪmplə/ while one of the participants did not pronounce the word. Forty-five (75%) participants pronounced 'employer' with audible /r/ sound. All the participants (100%) mispronounced the diphthong /eɪ.ə/ in /pleɪ.ə/ by pronouncing /e:/ (/ے/ is a vowel sound in Urdu) in place of /eɪ/. Fifty-seven (95%) participants did not aspirate the /p/ sound while 53 (88.33%) of them pronounced /r/ in the pronunciation of /pleɪ.ə/. The word 'tired' can be pronounced either /taɪ.əd/ (having two syllables) or /taɪəd/ (having one syllable). Fifty-three (88.33%) participants pronounced 'tired' correctly (43.40% pronounced /taɪ.əd/; 56.60% pronounced /taɪəd/). So, majority of the participants opted for a diphthong instead of a triphthong in the pronunciation of 'tired'.

4.15 Category-wise Pronunciation Comparison among Groups in Schools
The frequencies in Table 3 and Table 4 illustrate the fact that English diphthongs and triphthongs were difficult for the participants to pronounce correctly because all of them scored very low. As shown in Table 5, the mean scores of the participants decreased significantly as they moved from consonant sounds towards the triphthongs. The participants from private institutions scored a bit higher than those from public schools in the pronunciation of diphthongs and triphthongs. Most of the participants treated triphthong sounds as diphthongs and thus, committed errors of pronunciation.

4.16 Public Schools vs Private Schools
The participants from private schools excelled of consonants, vowels,. The difference in the pronunciation of consonant sounds was only marginal but big difference was observed in the pronunciation of monophthongs, diphthongs and triphthongs. As shown in Table 6, there was not much difference among scores of participants from public schools and private schools in the production of consonant sounds. When it comes to the pronunciation of English monophthongs, the short and long vowel sounds, Table 7 is indicative of the widening gap between scores of participants from public schools and private schools. The participants from private schools scored better as compared to those from public sector schools. In the production of English monophthongs, 28 participants from private schools scored 91.66 while only 12 participants from public schools could score 91.66. Table 8 contains frequencies of correctly pronounced English diphthongs by the participants. All the participants could not do well in the production of diphthongs but here too, the scores of the participants from private schools were comparatively more encouraging. As shown in Table 9, English triphthongs were not easy to pronounce for the participants from both public schools and private schools. The mean of scores has been mentioned in Table 10. The mean scores of participants clearly point to the fact that they need much hard work if they want to improve their pronunciation of English

diphthongs and triphthongs. They could not differentiate between diphthong and triphthong sounds and treated triphthongs as if they were pronouncing diphthongs. The seriousness of the situation is apparent from the graphic representation of the performance of the participants in the production of English sounds.

4.17 Female Participants vs Male Participants

As shown in Tables 11 and 12, the male and female participants fared well in the production of English consonants and monophthongs. Majority of them got good scores in the pronunciation of these sounds. With the exception of a few sounds, they produced all the consonants and vowels (short and long vowels) easily. There was a sharp drop, however, in their performance when they tried to pronounce English diphthongs and triphthongs. As illustrated in Tables 13 and 14, none of them was able to pronounce all the diphthongs and triphthongs correctly. Mean scores of male and female participants in the production of English sounds have been given in Table 15. The male participants did marginally better than the females in the production of English consonant sounds but the performance of female participants was better in the pronunciation of English monophthongs, diphthongs and triphthongs. The graphic representation of the performance of boys and girls in Figure 3 offers the same situation of a significant drop in their performance in the production of diphthongs and triphthongs.

4.18 A Collective Scenario of Pronunciation of the Participants

Table 16 illustrates the mean scores of the participants collectively. All the participants (100%) did well in the production of English consonant sounds and scored 88.60. The /θ/, /ð/ and /ŋ/ sounds were difficult for them to pronounce. They also fared well in the pronunciation of English monophthongs. They scored 88.32 in the production of short and long English vowel sounds. With the exception of /ɔ:/ and /ɒ/ sounds, they produced all the English monophthongs satisfactorily. They substituted the /ɑ:/ sound for /ɔ:/ and /ɒ/ sounds. The /ɑ:/ sound was comparatively easier for them to pronounce because of its presence in the Urdu alphabet, the L1 for the participants. The mean score of the participants in the pronunciation of English diphthongs reached 35. With the exception of /aɪ/, all the diphthongs were difficult to pronounce for the participants. Mostly, they replaced the correct /ɪ/ sound with the /i:/ sound in the pronunciation of double-vowel sounds. They treated the diphthong /eɪ/ as a monophthong and mispronounced it as /e:/, a sound which is not present in English. The /e:/ sound is a vowel sound in Urdu i-e /ﮯ/. Instead of pronouncing the diphthong /əʊ/, they pronounced it as the /ɔ:/ sound. The /aʊ/ sound was pronounced as /əʊ/ by most of the participants. They could not distinguish between /ɔ:/, /aʊ/, /əʊ/ and /ɒ/ sounds. All the participants (100%) pronounced /ɪə/ in place of /eə/. The performance of the speakers in the production of triphthongs was also not encouraging. The mean score of the participants was only 28.23 in the production of triphthongs. The participants, in most of the cases, treated triphthongs as diphthongs and thus, committed errors of pronunciation. Figure 4 summarizes the overall performance of the participants in the production of English sounds on a collective level. The columns in the graph show a graphic picture of the dismal situation which prevails in the educational institutions of district Sialkot. The pronunciation of diphthongs and triphthongs is difficult for secondary level students of public and private schools equally. Serious efforts are needed to be introduced in order to improve this chaotic situation of pronunciation in secondary level classes in district Sialkot.

4.19 Data Collection from Teachers and its Analysis

While all the participating teachers (100%) did not know diphthongs or triplets in English, 08 (53.33%) could not distinguish vowels and vowels in English. Only four (26.66%) participants were able to distinguish between the alphabet and English. Two (13th While 33% of the

participants said that 'a, e, i, o, u' are English sounds, one person stated that there are only two vowel sounds (/ɑː/ & /æ/) in English. While 10 out of 15 respondents (66.66%) did not have a clear idea about the difference between American and British accent, one of them said that the two types are completely different and American accent is taught to Sialkot second grade students. pronunciation to young students in the earlier classes while three (20%) of them opined that rural and uneducated domestic environment was responsible for unsatisfactory English pronunciation among secondary school students. Four (26.66%) participants commented that mother-tongue influence caused mispronunciation of English sounds while two (13.33%) of them accused unskilled English teachers for phonetic discrepancies among secondary level students in Sialkot. Some other factors responsible for unsatisfactory English pronunciation as mentioned by the participants were the adaptation of articulators to L1 sounds, unsuitable classroom environment for speaking English and the lack of interest on the part of English teachers and the students in the English language classrooms.

One of the participants said that the English teachers should teach sounds to their students not through spellings but through sounds i-e they should teach 44 English sounds to their pupils for better English pronunciation. More focus on English pronunciation in the classroom, listening to native speakers on BBC, the use of AV aids and the internet, the teaching of IPA symbols to secondary level students, the effective use of good English dictionaries, the learning of pronunciation of five to ten words on daily basis and the availability of skilled, up-to-date and competent English teachers were also some of the remedies suggested by the participants during the course of interviews. All the teacher-participants (100%) thought that English pronunciation is very important because it enables the speakers to communicate effectively with other speakers of English, natives or non-natives. Out of 15 participants, 14 (93.33%) had no idea of Received Pronunciation (RP). Twelve (80%) participants used Urdu in English language classrooms for explanation of difficult ideas to their students. They thought it was necessary for them to speak in mother-tongue to make things easy for secondary level students in the English classrooms. Three (20%) participants did not allow their students to speak any other language than English in the English classrooms at secondary level. Seven (46.66%) participants thought pronunciation to be more important than annual results while four (26.66%) of them considered annual results to be of greater importance than spending time on teaching English pronunciation to 10th class students. Four (26.66%) participants gave equal importance to both English pronunciation and annual results at secondary level. Twelve (80%) participants were of the view that economic condition of the parents of secondary level students did have an impact on the learning of their offspring while three (20%) of them considered that intelligence, mental alertness and hard work of secondary level students weighed more than the economic condition of the parents. Ten (66.66%) participants had no intention of teaching IPA symbols (English Textbook for 10th class by Punjab Textbook Board, Lahore, 2017-2018, p.17) to their students while five (33.34%) of them had already taught these symbols to their secondary level students.

5. Discussion

The various sounds and their articulation in L1 and L2 happen to be different. The nasal consonant sound /ŋ/ is pronounced as /ŋg/ by L2 learners in Sialkot. The /p/, /t/, /k/ sounds are not aspirated by secondary level students in Sialkot during the course of pronunciation when these sounds appear at the beginning of English words. This lack of aspiration makes their pronunciation more like Pakistani English (PakE) than being close to British English (RP). The aspirated stops in English are neutralized by Pakistani English (PE) speakers (Syed et al., 2017). The /r/ sound is pronounced by secondary level students in Sialkot wherever it appears in English words. Majority of the participants pronounced /r/ wherever it was. This tendency takes their pronunciation close to American English (AmE) and away from RP. The

pronunciation differences between British and American accents should be kept in mind by the speakers of English language (Modiano, 1996).

Many English instructors remain undecisive throughout the academic year about the teaching of English pronunciation to their secondary level students. Many English instructors at secondary level in district Sialkot prefer teaching of English grammar to their students whereas Farhat and Dzakiria (2017) opine that English pronunciation should be taught in preference to English grammar and vocabulary. They encourage their students to speak English in the classroom but are not successful in their motivation because only a few students speak in English. Most of the English teachers themselves cannot differentiate between English consonant and vowel sounds and have no knowledge of English diphthongs and triphthongs. The difference between British and American accents is unknown to majority of English teachers who are teaching to secondary level students in Sialkot. So, they are teaching a mixture of both these accents to their students. Only one accent of English should be taught to the students (Modiano, 1996). Most of the secondary level teachers are unaware of the notion of Received Pronunciation (RP). It is, therefore, natural for the students to be away from the British English or the RP. Untrained, unskilled and impassionate English teachers, in addition to L1 interference in learning of English as a second language, are one of the major causes of phonetic discrepancies in English among secondary level students in Sialkot. English pronunciation trainings should be arranged for English language teachers (Wahab, 2019). In the context of English teaching, a teacher must be a perfect model of pronunciation before he can make a significant improvement in the field of pronunciation of secondary level students (Archana & Rani, 2017).

A vast majority of English teachers do not teach IPA symbols to their students without any logical reason.

5.5 Conclusion: High school students are unable to distinguish between diphthongs, they change /ɪə/ for /eə/, /iːə/ for /ɪə/, and /əʊ/ for /aʊ/.high school students in the district Lahore both English triples and English vowels. They try to reduce three vowels to two vowels by skipping a vowel, thus making pronunciation errors. English triplets arise when they treat triplets as monosyllabic sounds by dropping the 'ə' sound at the end of the triplets. This exercise induces phonetic differences in the English speech of high school students in Lahore district. A 'semi-structured interview' tool was used to collect data from teachers and participants to identify the sources of phonetic variation in English spoken by secondary school students in Sialkot. They are also asked to suggest some solutions to improve English language at secondary level in Sialkot. Data analysis shows that English teachers are not trained, L1 interferes with L2 sound processing, and lack of early English teaching are the main reasons for poor English speaking among high school students. Proper training of teachers in English pronunciation and teaching English sounds from the first grade is the best solution to improve the English of secondary school students in Sialkot district. Extensive reading of English texts for English teachers and the use of English as an instructional tool in language classrooms are two methods that can help eliminate phonetic differences in spoken English of high school students in district Lahore.

5.7 Recommendations for Further Research

More research can be done focusing on the salient features of English among high school or college students in Sialkot district. A comparative study can also be conducted by trying to determine the percentage of English and American English usage of university level students in Sialkot. Researchers face many difficulties in selecting participants in Sialkot district due to low willingness of participants or administrators ofeducational institutions to participate in the study. We hope that the environment in Sialkot will soon be conducive to future research.

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