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AETIOLOGY OF STUTTERING IN BILINGUAL LEARNERS WITH L1 URDU AND L2 ENGLISH

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Abstract

Stuttering in bilinguals is an area that has not received much attention in Pakistan. The present study draws on the manifestations of stuttering among bilingual learners, with L1 (Urdu) and L2 (English), who stutter. This research investigates the most common stuttering sounds found during L2 learning process, among 15 bilingual learners (10 to 12 years old). This study is an attempt to analyze stuttering in relation with the mother tongue and with stutter's second language. The study also explores whether or not the cause of speech aphasia is neurogenic or psychogenic depending on the classroom environment. Different tools were used to collect the data,as suggested by the Sander's (1972) framework. The findings indicate that vowels, bilabials, alveolar, velar and palato-alveolar are problematic sounds for bilingual learners who stutter. Moreover; stuttering is psychogenic speech disorder as compared to its neurogenic causes. The results regarding frequency of stuttering (L1 or L2) concur with the findings of Nwokah (1988) who ascertained that bilingual leaners who stutter were more likely to stutter in one language than in another.

Introduction:

The present study examines the manifestations of stuttering in bilingual learners who stutter with L1 (Urdu) and L2 (English). The study draws on (a) the aetiology of stuttering sounds (b) neurogenic causes of stuttering in classroom (c) psychogenic causes of stuttering during learning process of L2, and (d) stuttering and bilingualism to address the aforesaid purpose.

Stuttering is a linguistic phenomenon in which articulatory motor and speech organs fail to perform their usual function, as a result of which stuttering occurs**.**Stuttering Foundation of America's survey (2013) shows that almost 1% of the world population stutters. Occasional incidences of stuttering in an individual's life are 4-5% excluding early childhood episodes of brief duration, however inclusion of these episodes will raise the percentage (Bloodstein &Ratner, 2008: 67). Identification,evaluation and treatmentof stuttering have two distinct modes i.e. Physical manifestations and the behavioral patterns of the person who stutters (Tetnowski & Scaler Scott, 2009: 444).With the discovery of some important aspects about stuttering, Anderson, Pellowski and Conture (2005: 224)are of the view that stuttering is disruption in fluency of verbal expression which is characterized by involuntary, audible, or silent repetitions or prolongations in the utterance of short elements namely sounds, syllables, and words of one syllable. These disruptions usually occur frequently or are marked in character and are not readily controllable.

Stuttering occurs when the forward flow of speech is interrupted abnormally by repetitions or prolongations of a sound, syllable, or articulatory posture, or by avoidance and struggle behaviors. There are two types of stuttering (a) Repetition, example of repetition is "where is mmmmmmy book?" (b) Blocking, example of blocking is "my c---------- at is black" (Van Riper & Emerick, 1984: 173).Stuttering is a complex phenomenon, and it is difficult to cover its all aspects inone definition. Stuttering cannot be defined easily as a singular event, as it encompasses many levels of breakdown, and these can be both overt and covert. Non fluency and disfluency are two different terminologies described by Tetnowski and Scaler Scott (2009: 243).According to them, Nonfluency refers to any breakdown in fluency whether stuttering or not while disfluency refers to breakdowns in fluency that would not be considered as stuttering (Yairi, 2007: 176).Word repetitions, monosyllabic word repetitions, prolongations, and blocks characterize stuttering like disfluency (Yairi & Ambrose, 2005: 276). Nonfluency is the umbrella term for its subsets i.e. disfluency and stuttering and differentiates stuttering from other disfluences that may be found in many other speech disorders (Van Borsel & Tetnowski, 2007: 287). Incidence of stuttering is usually accompanied with some physical reactions like tension in the face and/or jaw; distortions of the mouth; quivering nostrils; frowning; movements of eyes; head; tongue; hands; arms; legs; feet; torso and respiratory muscles (Bloodstein & Ratner, 2008: 249). Although all persons who stutter may not experience all these physical reactions but their ability to communicate is directly linked with the cognitive component of stuttering (Starkweather, 1987: 261) and their communicative experiences may generate a negative belief system which directly affects listener's perceptions (Bennett, 2006: 278).Generally, it is assumed that the onset is between 2-5 years, and the boys are three times more likely to stutter than girls (Conture, 2001: 176).Although there are a variety of therapies but still there is no 'cure' for people who stutter (Kraaimaat, Vanryckeghem& Van Dam-Baggen, 2002: 321). Typically, a stutter is more episodic at first and a person's stutter is only considered chronic after puberty

(Onslow, 2013: 113).A lot has been said on the symptoms of stuttering but its causes are still mysterious in this age of advanced technology (Robb, Sargent &Greg, 2009: 37).

As far as the aetiology of stuttering is concerned, one such study can be traced back to Aristotle, who believed that stuttering was due to some abnormality of the tongue (Bloodstein, 1995: 79). However, many studies have been considering the physiology, psychology and environment of a person who stutters overwhelmingly (Buhr & Zebrowski, 2009: 158).A child's stuttering was in the parent's listening skills rather than the child's speech i.e. a parent misheard the child and then reinforced a habit, known as the diagnostic theory (Steer &Johnson**,**1936: 38). However, Van Riper (1973: 37)believed that stuttering was the outcome of a disorder in the timing of muscle movement which was then reinforced by his fear and the struggle for fluency. Today, it is generally accepted that there are many factors which may contribute to the incidence of stuttering e.g. physiological, linguistic, environmental and emotional (Yaruss, 2001: 172).

Stuttering is as old as human history**,** but still it is found mysterious, as its causes are manifold or perhaps nothing causes it. Several researchers attempted to discover the changes occurring in brain activity during speaking, and also tried to establish the link between brain and speech organs (Broca, 1861; Wernicke, 1874; Boetz &Barbeau, 1971). The previous studies on stuttering mainly delineate the monolingual communities especially those speaking English as their mother tongue (Van Borsel, Maes & Foulon, 2001: 189). Intervention of speech sounds in relation to dysfluencies in bilingual stutterers is an area less researched. For intervention in speech sound disorders, the evidence suggests that for some shared sounds, intervention provided in one language will transfer to the other (Schafer & Robb, 2012: 607). A few studies with bilingual stutterers have demonstrated that intervention in one language can decrease dysfluencies in the other (untreated) language (Ardila, Ramos &Barrocas, 2011: 27).A study of bilingualism (Spanish-English) showed that stuttering occurred in both languages but was found to be more affected in one language relative to the other, and it was revealed that the participants were, Particularly,found to stutter more frequently in the language that was less dominant (Morrish, Nesbitt, Roux, Zsilavecz& van der Linde, 2016: 158). The findings hence ascertained can be generalized if their validity is tested in Urdu- English bilingual cultures. The current study attempts to gauge the validity of the facts of stuttering by examining it in Urdu- English bilingual learners.

Significance of the Study

The present study is of considerable importance as it aims to unearth the manifestation of stuttering among bilingual learners who stutter with L1 Urdu and L2 English. The study is significant for Speech Therapists, as they can avoid possible causes of stuttering and can suggest feasible practices to the learners. Findings of the study are of considerable importance especially as far as bilingualism is concerned because the study shows that stutterers stutter more in their mother tongue as compared to second language in classroom environment – a pattern contrary to outcomes of most research studies available to date.

Research Questions:

1. What are the sounds on which Urdu-English bilingual learners stutter the most?

2. Whether Urdu-English bilingual learners stutter more in first language or second language?
3. Whether stuttering is a neurogenic or psychogenic speech disorder in bilingual learners in classroom environment?

Research Methodology:

Sample:

Sample was collected through purposive sampling. A group of 15 school learners of 10 to 12 years old participated in the study. Parents of these 15 learners were also part of the sample, as some of the significant information required to address the research questions was collected from them.

Setting:

These 15 children who participated in the study were under treatment with Speech therapists for the cure of stuttering, and were consulted at the clinics of different speech therapist in Lahore which included Speech Therapy Centre of Sheikh Zaid Hospital, Hamza Foundation, Johar Town and Gondal Medical Complex. To minimize the source of friction, children were provided with the possible natural environment to get natural response from them.

Procedure:

Research design for the present study was an adaptation from Sander's (1972) model of evaluation of speech and language disorders in bilingual learners. Main tools used for data collection from the respondents were as follows:Reading Passages, Word list styles, Pictures, Formal speech (Interviews), Informal Speech (with friends or parents), Standardized Evaluation Sheets, and passive observations. Interviews and evaluation sheets were administered to collect information regarding stuttering habits of bilingual learners from the parents. Parents were consulted assuming them as the best choice for some of the questions regarding subjects such as initial symptoms of stuttering or the onset of stuttering or indication of any important incident which caused the onset of stuttering.

To address the aetiology of stuttering, Information was collected from the learners with the help of reading passages, word list styles, pictures and interviews. Reading passage and word lists helped to get the data for L2 while pictures and interviews helped to get data for L1. English Passages and English words lists provided an opportunity to collect data for the sounds on which the stutterers stutter most in their L2 while looking at the pictures, they made a story in their mother tongue which provided with data for the sounds they stumble over in their mother tongue. Some informal random questions also helped to add in the data for L1. Each participant was audio recorded while interacting for approximately 15 minutes. These were passive observations on the part of researcher to minimize the chances of confusion among the learners as confusion can accelerate stuttering.

Assessment sheets help in finding out the possible causes of stuttering i.e. neurogenic and psychogenic. These sheets were provided to the parents to be filled up by them, as the questions in those sheets were related to the possible causes of stuttering i.e. what caused the stuttering for

the first time? Whether it was typhoid fever or some psychological shock e.g. hard beat by father or the exchange of harsh talks between the parents caused the onset of stuttering. The data were shared with the speech therapist to ensure the reliability and validity of the outcomes.

Theoretical Framework:

The present research aims to employ Sander's (1972) model because it best suits to get the data from the stutterers in the classroom and employs all the tools to address the research questions of the present study. Following the same research design suggested by Sander's (1972) model, reading passages, word list styles, pictures and interviews were used to collect data from the learners. The evaluation sheets and other tools used for collecting data were recommended by Sander (1972) to conduct research on the causes and demographics of stuttering in pre-school learners and primary school learners.

Validity:

All the tools used for collecting data i.e. questionnaire, paragraph reading, word lists, and pictures helped to get uniform results. All the techniques applied were designed to know the aetiology of stuttering, its possible causes and interaction of stuttering and bilingualism in the classroom. Instead of having detracted information, the tools gathered the exact required data only. The results gathered from these tools were consistent from the findings of other tools. For example, the sound on which a child stutters in reading passage while in story telling from the pictures, he stutters on the same sound. All the research tools supported each other to identify the answers of research questions, which enhance the validity and reliability of the research.

Ethical Considerations

As the current study required the participation of human respondents, ethical issues were addressed to ensure the consent as well as privacy of all the participants. The consent of the parents of minor participants was sought by assuring them that the research study was being conducted solely for the academic purpose and the information gathered would not be misused. The confidentiality of the participants was also ensured, as their names and personal information were not disclosed in the research. Only relevant details that assisted in answering the research questions were included.

Results:

For the first research question, i.e. aetiology of stuttering, images of the place of articulation for the most problematic sounds during learning process in the classroom are presented. For the second research question, i.e. whether it is psychogenic or neurogenic causes of stuttering in classroom environment, the results are shown in the percentage form. For the third research question, the data were elicited from the same research tools which were administered to get data for the first research question i.e. aetiology of stuttering. Results for the third research question i.e. Urdu English bilingualism and manifestation of stuttering in the classroom have been presented in the narrative form.

Aetiology of Stuttering:

The problematic sounds have been shown with their places of articulation. Following are the places of articulation for the problematic sounds which were found quite frequent in the recorded data of bilingual learners in the classroom.

Velar Articulation:

The sounds which are produced when back of the tongue touches the soft palate are called Velar sounds. The consonants that have the farthest back place of articulation in English are those that occur at the end of "hack, hag, hang". In all these sounds, the back of the tongue is raised so that it touches the velum.

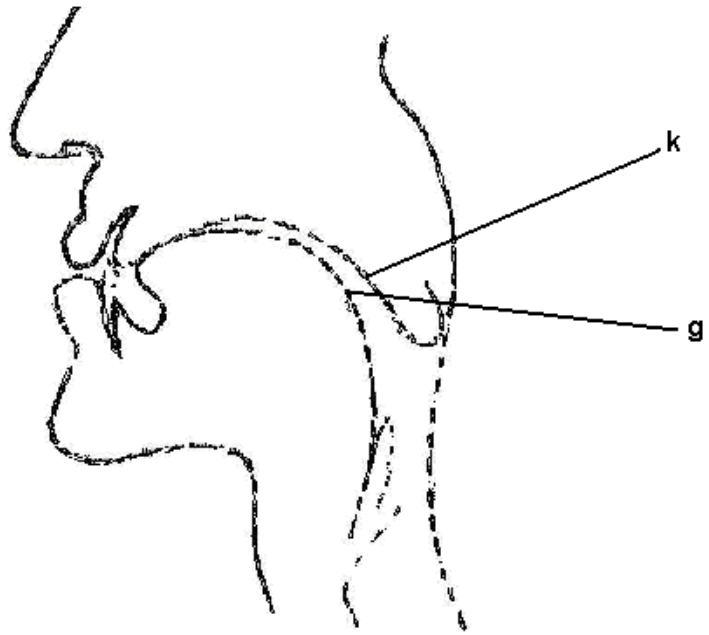

Figure 1

/k/and /g/ are velar sounds which are found problematic. It was observed that during reading passage activities and interview sessions, the learners stutter on these sounds which have a velar articulation. Talking about the manner of articulation, /k/, and /g/ sounds are the oral stops. In addition to the articulatory closure in the mouth, the palate is raised so that the airstream will be completely obstructed. As a result pressure in the mouth will be build up and an oral stop will be formed. When the articulators come apart, the airstream will be released as a burst of sound. This kind of sound occurs in the consonants in the words: "key, guy" (velar closure).

Bilabial Articulation:

The sounds which are produced when two lips are combined together are called bilabial sounds. While saying “pie, buy, my” both the lips come together for the first sound in each of these words.

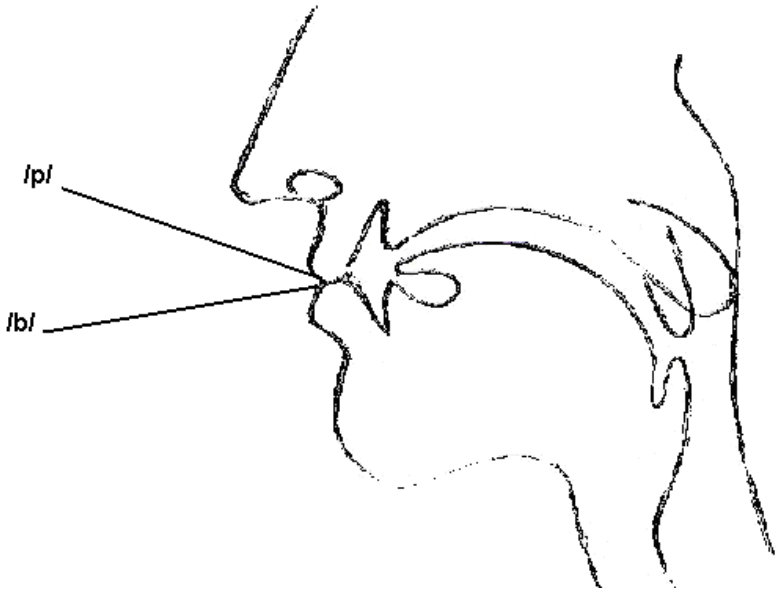

Figure 2

/m/ and /b/ are the bilabial sounds which are found problematic. The learners stutter for these sounds during their interviews and reading passages. In terms of manner of articulation, these sounds are also stops but /b/ is an oral stop while /m/ is a nasal stop. If the air is stopped in the oral cavity but the soft palate is down so that it can go out through the nose, the sound produced is a nasal stop. Sounds of this kind occur at the beginning of the word “my” (bilabial closure).

Alveolar Articulation:

The sounds produced when tongue tip or blade touches the alveolar ridge. While pronouncing the words “tie, die, nigh, sigh, zeal, lie”, the tip of tongue or blade of tongue touches the alveolar ridge.

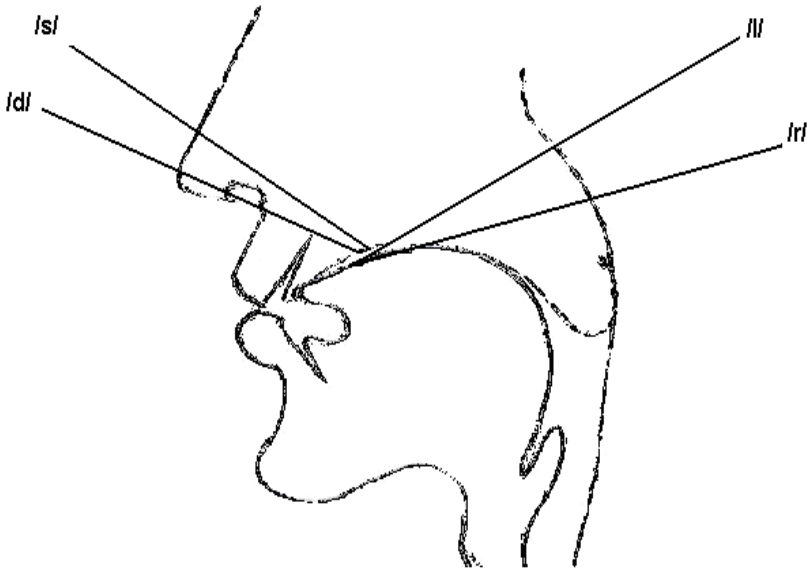

Figure 3

/l/, /s/, /r/, /d/ are alveolar sounds which are found problematic in the collected data. Both formal (reading) and informal (interviews) tools showed these sounds of stuttering. Talking about the manner of articulation /l/ is lateral /s/ is fricatives; /r/ is Trills /d/ is tap or flap.

Palatoalveolar Articulation:

The sounds which are produced when blade of the tongue touches the back of alveolar ridge are called palatoalveolar sounds e.g. words like "chirping, checking".During the production of consonants, the tip of your tongue may be down behind the lower front teeth, or it may be up near the alveolar ridge, but the blade of the tongue is always close to the back part of the alveolar ridge. Because these sounds are made further back in the mouth than those in "sigh, sea, sew", they can also be called post- alveolar.

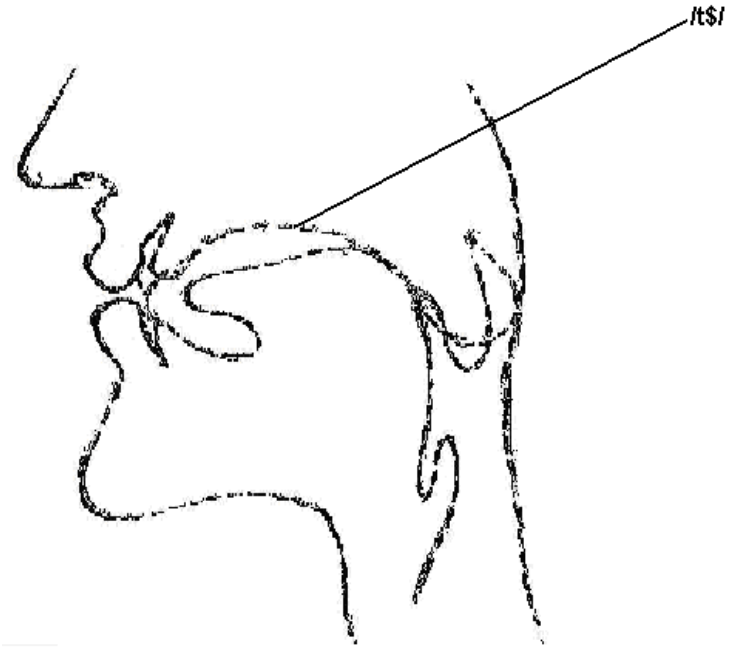

Figure 4

/tʃ/ is the palato-alveolar sound which is found problematic in the collected data. Learners stutter on it while uttering this sound during the observations. In terms of manner of articulation, the palatoalveolar sounds are fricatives. Fricatives are the sounds produced with close approximation of two articulators so that the airstream is partially obstructed and turbulent airflow is produced. Figure illustrates one pronunciation of the palatal alveolar fricative consonant in "chirping". Note the narrowing of the vocal tract between the blade of tongue and the back part of the alveolar ridge. The high pitched sounds will be more obvious such as those in "sigh, shy, choose" are sometimes called sibilants.

Stuttering in Vowel Sounds

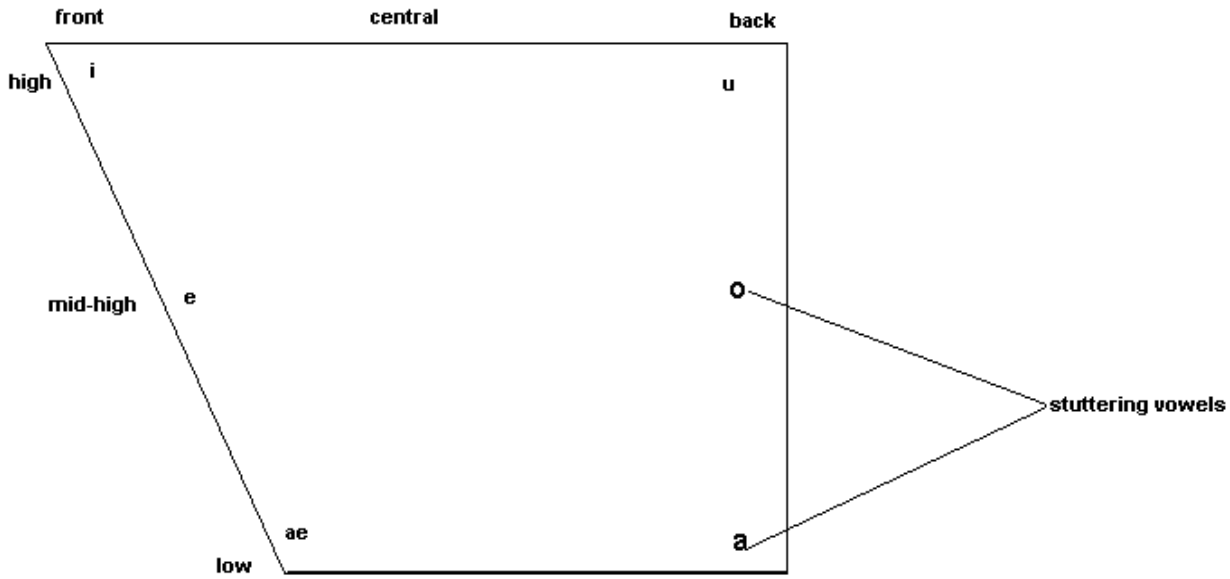

Figure 5

/a/ and /o/ are the two vowels which were found problematic. The learners stuttered on these two vowels while uttering the words having these vowels during their conversation. /a/ is a low back vowel, usually uttered in sounds like "father"./o/ is the mid- high vowel usually uttered in sounds like /bour/ boar and hoarse /hours/.

Causes of Stuttering:

Ratio of possible causes

	Frequency	Percent
Neurogenic	6	40.0
Psychogenic	9	60.0
Total	15	100.0

Table 1

The data shows that 6 out of 15 occurrences were of neurogenic stuttering learners while 9 out of 15 were that of psychogenic. To get these results, evaluation sheets were provided to the parents having questions about the onset of stuttering. That how and when it was started, and specifically what were those events which caused it. 6 out of 15 parents told that it was due to

some physical ailment that caused the onset of stuttering while 9 out of 15 parents mentioned that it was some sort of psychological trauma which caused stuttering to occur e.g. exchange of hard talks between parents caused the onset of stuttering in the learners.

Stuttering and Bilingualism:

The collected data shows that learners stutter more in their L1 as compared to L2 in the classroom.During reading passages and word lists, they were more fluent (as they were in L2), while during story telling from the pictures and interviews they stuttered more. The ratio for their stuttering in L1and L2 was quite obvious from the recordings, but could not be shown through figures or tables, as no particular statistics could be drawn for the ratio of stuttering between the two languages.

Discussion:

Among the bilingual learners, the most common stuttering sounds found during L2 learning process were /k/, /g/, /b/, /m/, /l/, /s/, /r/, /d/, /ʧ/ /a/ and /o/. Talking about the ratio of occurrence of these problematic sounds in the classroom we can categorize that, "/m/ and /b/" are the sounds most commonly occurring in the collected data followed with /ʧ/, /g/, /r/, /d/, /l/, /s/, /a/ second most commonly occurring problematic sounds and /k/, /o/, are the third most problematic sounds. During observation, it was noted that vowels, bilabials, alveolar, velar and palato-alveolar are found as the most problematic sounds. Bilabial and alveolar are stops, therefore while producing these sounds like /b/ and /m/ once the air stream is blocked in the mouth and then released at once. This mechanism is not fully followed by the stutterer and after stopping the air they fail to release it at once and are blocked on the same sound and start stuttering on the same sound. Same is the case with the velar sounds which are oral stops. If in addition to the articulatory closure in the mouth, the palate is raised so that the nasal tract is blocked off, then the airstream will be completely obstructed. Pressure in the mouth will be build up and an oral stop will be formed. When the articulators come apart, the airstream will be released in as a burst of sound. These kinds of sounds are produced while pronouncing the sound /k/, /g/. The same problem rises here that stutterers get failed in releasing the airstream when articulators come apart that's why they start stuttering on these sounds. The palatoalveolar sounds are fricatives. Fricatives are the sounds produced with close approximation of two articulators so that the airstream is partially obstructed and turbulent airflow is produced. Eventually, the stutterer fails to manage the partial obstruction of the airflow in the mouth which causes stuttering on the sounds like /ʧ/. Alveolar sounds which have laterals, retroflex, trills and flap creates problem for the stutterer because he fails to manage the partial blockage of airstream in the mouth thus cause stuttering as a result. This was the mechanism for consonant sounds while talking about vowel sounds there is no obstruction in the mouth. But once the stutterer release the complete burst of air stream, he then fails to get a control over it to put it an end and to produce the next sound soon after it which is also verified by the professional speech therapists.

One of the most important aspects of this study was to find out the causes of stuttering. Results showed that 40% of the subjects suffered from stuttering because of neurogenic causes while 60% of the subjects suffered from stuttering because of psychogenic causes. Among 40% participants, fever, head injury or typhoid caused stuttering. For example, one of the learners suffered head injury at the age of 4 years which caused onset of stuttering. Two of the

participants suffered typhoid which caused stuttering. These results were collected by asking questions to the parents with the help of evaluation sheets and interviews.Results show that 60% of participants stutter because of psychogenic causes which include any kind of shock, stress, lack of attention, birth of any younger child, separation of parents, strict home environment, inferiority complex, etc. these findings were collected through evaluation sheets duly filled by the parents and from the interviews held with parents. Different psychological situations and problems caused onset of stuttering. For example, in a case, 5 years old child started stuttering when he saw exchange of harsh talks between his parents. Again a child started stuttering because his teacher always snubbed him and he never felt comfortable with him. Another child started stuttering because his father had beaten him which caused psychological trauma and consequently onset of stuttering.

Findings of the present study show that stuttering is more common in mother tongue as compared to the second language, as almost all participants showed no sign of stuttering in their second language, while prevalence was noticed in their mother tongue.These findings are quite contrary to the expected findings that being more expedient in their mother tongue, they would be having no problem in it, and it would be difficult for them to utter fluently in their second language, being alien to it. But quite surprisingly, the results are quite opposite; they remained more fluent in the second language as compared to their mother tongue. The possible reason for such results is that stuttering is a fluency disorder and being fluent in mother tongue they encounter problems in utterance; while speaking second language, as they give pauses and speak at slow rate which results in rhythmic normal speech.

Conclusion and Recommendations

As the results show that for the aetiology of stuttering, a set of problematic sounds is found that can be grouped according to their place of articulation i.e. bilabial, velar, palatoalveolar, alveolar and vowels. Among these problematic sounds "/m/, /b/," are the bilabials, /k/,/g/ are the velar sounds and /tʃ/ is the palate alveolar sound. Alveolar sounds such as /r/, /d/, /l/, /s/ are also found problematic. The stutters stutter on some vowel sounds such as /a/ and /o/.

The most interesting results found are for bilingualism and stuttering which show that stuttering is more common in mother tongue as compared to the second language, as almost all participants showed no sign of stuttering in their second language, while prevalence was noticed in their mother tongue. These findings are quite contrary to the expected findings that being more convenient with their mother tongue, they would be having no problem in it, and it would be difficult for them to utter fluently in their second language, being alien to it. But quite surprisingly, the results are quite opposite; they remained more fluent in the second language as compared to their mother tongue.

It is interesting to consider the generally accepted view that stuttering is a psychogenic problem, and the stutterers often suffer for some psychological shock and it is hard to cure. However the present study identified two important aspects related to stuttering. First is that stutterers stutter more in their mother tongue as compared to L2 during the learning process of second language. It shows that stuttering is purely a fluency disorder, so exercises and practices related to fluency would be more effective to manage the problem. Along with psychological treatment, long termed, self-applicable practices are required. Such practices will help stutterer to

overcome stuttering incidence throughout his/her life. Also most common stuttering sounds show that what technique (s) of practices should be adopted to control these sounds which make the normal learners look and feel abnormal.It is quite contributory attempt in terms of stuttering manifestation with suggested practices for L2 learners who stutter.

Following are the suggested practices for L2 learners who stutter, devised by the consent of Speech Therapist.

- **Breathing Exercise:**

  Stuttering is very much linked with the respiration and the process and rate of respiration. Usually stutterers forget to take breath while speaking which cause an air blockage, consequently they stutter. To make the learner aware of this problem he is prescribed "To be fair with the Air".The learner is asked to inhale air, and to take deep breath, and to hold it inside for maximum time, then release it and exhale it slowly. Repetition of this same exercise increase the length of breath which gradually increases the stamina of taking long breath due to which they utter words and sounds smoothly and fluently without repetition or blocking.In the beginning, if a learner is holding breath for 15 seconds, in the next session he must have hold it for atleast 18 seconds which is possible only with practice of the same exercise. Repetition of this exercise increases the stamina and length of breath due to which learner feels convenient to speak fluently and makes it easier for him to start learning the lesson.

- **Contact Speech:**

  To maintain a regular flow of speech, the learner is asked to utter one or two words in a single breath, by encouraging the regular breath with pauses in a single sentence. For this purpose, he is asked to tell a story, or to tell the whole routine activities, and then he is guided to exercise the suggested practice.

- **Self-Assessment:**

  It focuses on the self-evaluation ofthe learner based on the speech disfluency, and frequency of stuttering. He is also advised to monitor his effort and progress during L2 learning process.

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