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IDENTIFICATION AND RESOLUTION OF ENGLISH PROBLEMS FOR KHOWAR LEARNERS IN PAKISTAN

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Abstract:
This study focuses on identification and resolution of problems of learning English in Pakistan. A group of ten undergraduate students of X University were sampled in this experiment, aimed at identifying the nature of errors in the speech of Pakistani students. They were asked to produce words of English in the forms of minimal pairs starting with English [v]-[w] consonants. The productions were recorded and analyzed acoustically in computer software using speech learning model (SLM) by James E Flege and colleagues. The results confirm that Pakistani students do not maintain the difference of lip-rounding between these two consonants of English. On the basis of the findings, this study recommends that English language teachers in Pakistan need to develop a phonetic realization of target consonants in the minds of adult English learners to enable them to acquire English as a second language.

1. Introduction and background

Khowar language is spoken in Chitral, situated northern Pakistan in the province of Khyber Pakhtunkhwa (KP). The word 'Khowar' is a combination of two words; 'Kho' is the name of people who live in upper Chitral who are considered to be aboriginal inhabitants of the area as well as oldest native speakers of Khowar language, whereas the second part of the word 'war' means 'language'. So, the word 'Khowar' means the language of Kho people. Khowar is used as

a lingua franca in Chitral, a beautiful area located in the northern region of KPK Pakistan where 14 other languages are also spoken (Afzaal, 2019; Bashir, 2001). Khowar is spoken in some parts of Gilgit because these areas remained under the rule of Chitral state before partition of the sub-continent (Morgenstierne, 1936). Since Chitral is an underprivileged area, therefore, its inhabitants are scattered in different parts of Pakistan for the sake of getting education, employments and for other business purposes.

English as L2 is used in Pakistan (ESL) and also used in the government offices of the country. It functions as a colonial legacy in every public and private office since Pakistan remained under the British rule for almost a century. Though people of India and Pakistan set themselves free from the clutches of colonial rule in 1947, but English is still used in the country as a second language. Thus, although British speakers left Pakistan but their language remains in Pakistan with some adaptation and it is enjoying the status of an established variety of English called Pakistan English (PakE) (Rahman, 1990, 1991). When English native speakers left subcontinent and the new dominions of India and Pakistan came into being, adult learners of English in these areas had no other option but to speak English in indigenous way which finally a new variety is an addition to Englishes of the world (B. B. Kachru, 1992; Liu & Afzaal, 2020; Nelson, & Kachru 2006). A specific variety of a distant foreign language is normally created because of the impact of L1 (henceforth L1) on L2 (henceforth L2) particularly in the absence of a native speaker model. Therefore, any study of pronunciation errors of an L2 always involves interference of the L1(Syed, 2013). In the current case, the L1 is Khowar and L2 is English. Hence, this study will find out L1 influence on acquisition of L2 by analyzing English speech of Khowar learners of English. This study just focuses on English sounds [v w] which are absent in Khowar language but corresponding to these two sounds of English, only a labio dental approximant [ʋ] is not found in inventory of Khowar. A chart of consonants of Khowar is given below.

English is a second language in Pakistan. It has vital importance in our education system as we used it as a tool of instruction in Pakistan and students normally face difficulties in proper acquisition of English. Teachers depend on traditional teaching methods to address these issues. The current study is an attempt to highlight this issue from a different angle. We conduct this experiment with a view that if we use modern technology and apply computational methods in identification and resolution of student-centered problems of learning English in Pakistan, we can address, identify and resolve these problems with more efficiency and accuracy and achieve more fruitful results. The current study is an attempt in this direction. The study takes speakers of Khowar language (a language spoken in KP) as a sample in this experiment.

Table 1: Phonemic inventory of Khowar

	Labial	Dental/ Alveolar	Post-alveolar (apical)	Post-alveolar (laminal)	Velar	Uvular	Glottal
Plosive	p b p^h	t d t^h	ʈ ɖ $ʈ^h$		k g k^h	Q	
Nasal	m	n					

Affricate		ts dz tsʰ	ʈʂ ɖʐ ʈʂʰ	tɕ dʑ tɕʰ			
Fricative	f	s z	ʂ ʐ	ɕ ʑ	x ɣ		H
Tap		ɾ					
Approximant	ʋ			j			
Lateral		ɬ		l			

2. Literature Review

Wester, Gilbers, and Lowie (2007) Conducted a research on the production of [θ] and [ð] by Dutch language speakers as the targeted sounds were new for them. The study hypothesized that learners would substitute new sounds of L2 with [s z] as these sounds were closer to the L1 phonologically. However, the findings of the study showed that the learners substituted the given L2 sounds with phonologically closer sounds as well as the phonetically closer L1 sounds [f v] because of the mixed role of articulatory phonetics, phonology and markedess in L2 acquisition. Similar other research studies have demonstrated that both phonology and phonetics are equally effective and important factors in adapting production of target L2 sounds (Boersma & Hamann, 2009). However, a significant gap in the L2 literature is that we do not see many experiments which focus on acquisition of [v w] consonants of English. Only a small number of studies have addressed this issue in the past so, the present study is an effort to fill this gap.

This study will be conducted with an assumption of Flege's Speech learning model (Flege, 1995,1997, 2003, 2009) hereinafter SLM. This model mainly focuses on perception and production unlike other models which focus on perceptions of L2 learners only. According to SLM (1995), if the learners perceive the existing difference between L2 and the similar sound of L1, they can develop a separate phonetic category for such sound which facilitates them in learning the target language. This separate category of monolinguals is slightly different in features from bilinguals (Flege & Eefting, 1988). In other words, they will learn such sounds but with minor accent. On the other hand, the learners will equate an L2 sound if they do not perceive the sound of L2 corresponding to L1 in which case the new phonetic category is blocked (Flege, 1995; Haberman, Afzaal, Ghaffar & Alfadda, 2020). On the basis of this prediction of SLM, the current study will analyze acquisition of English [v w] by adult Khowar learners of English and forward suggestions for improving pronunciation of adult learners.

Flege (1995) divides L2 sounds into three categories, such as 'similar', identical' and 'new'. Similar sounds of L2 are considered to be somewhat equal to the corresponding sounds of L1 but actually the phonetic and phonological features are different in the two sounds of L1 and L2 in this category. Therefore, such sounds are considered to be most difficult to understand and learn. Such sounds can only be acquired by L2 learners if they realize the phonetic difference between the target L2 and the closest L1 sound. Thus phonetic realization is important in learning such sounds. The idea of 'phonetic realization' of L2 sounds by learners is central to this study and we get back to it in the analysis section.

Identical sounds are easier than the similar ones because in such contexts L2 sounds resemble to L1 sounds even in features too. Therefore, learners acquire these sounds by positive transfer from L1. In other words, they substitute L2 sounds with the L1 sounds in acquiring this category. In addition to it is a category called 'new' sounds which exist in L2 but not in L1. This is why

such sounds are named 'new'. These sounds are easy to learn because phonetic realization of such sounds is relatively easier for the learners.

Pakistan is multilingual country which is why Urdu is used as lingua-franca and Urdu the national language of the country too. The pair of sounds [v w] also does not exist in Urdu. Therefore, the given sounds are presumed to be difficult for English learners whose L1 is different. (Mahboob & Ahmar, 2004; Syed, Ansari, & Gopang, 2017). Keeping in view the importance of the topic, this study will focus on the acquisition of English [w v]. English [v w] are absent in Khowar language. It is hypothesized in this study that English [v w] will be substituted with the Khowar labio-dental approximant because Khowar language has only labio dental approximant [ʋ] in its phonemic inventory closer to these English sounds. The current study tests this hypothesis. The focus is Khowar language because it is a minority language in Pakistan and has been neglected in the previous research. This study will focus on the following questions.

a. How do adult learners acquire the 'new' and 'similar' sounds of English?
b. How can we resolve the problem of learning phonetically closer sounds?

3. Research methodology

This study is comprised of ten students as participants. Participants were given a list of English words containing target sounds (vine and wine) along with other distracting tokens. The listed words were familiar to the students so they can easily understand and read the target words in the list. The participants of the study were undergraduate (BS level) students of a university in Pakistan. In the BS four years program, English is part of the same program as a compulsory subject. Participants were asked to read the words loudly. While reading, their voices were recorded in voice recorder. After recording, the data was transferred to a Dell laptop for analysis. Praat (Boersma & Weenink, 2019) software in prosody pro (Xu, 2013) was used for computational analysis of sounds acoustically. Each targeted word was listed three times in the stimuli in order to get many productions of the target sounds. English targeted sounds [w v] were produced in the words 'wine, vine' with random sequence. Values of the third formant (F3) in the vowel soon after the target sound was taken in the software. A Crobach's alpha test was applied on repetitions which shows that reliability of data was excellent (v=0.763, w=0.893). The repetitions were averaged for further analyses which are presented and discussed in the following section.

4. Data analysis

English sounds [v w] produced by adult Khowar learners of English were studied in the acoustic analysis. Third formant of the vowel soon after the target consonant was taken as acoustic correlate for further analysis. The purpose was to see if learners produce [w] with and [v] without lip-rounding. We know that lip-rounding lowers F3 of adjacent vowels. Thus, we had an idea that if the learners had produced [w] with lip rounding and [v] without lip-rounding, we shall find a significant difference between F3 of vowels adjacent to these two sounds in productions of the participants. The average production score of F3 (in Hz) is presented below in table 2.

Table 2: Mean F3 Values

Sound	N	Minimum	Maximum	Mean	Std. Deviation
[w]	10	2352.40	2882.34	2651.90	158.55

[v]	10	2441.85	2838.67	2666.94	123.756

As the above result shows, there is a very minor difference of less than 20 Hz between mean F3 readings of these participants in production of Khowar learners of English. It means they produce English [v w] in the same way as a single sound. This is an error which is also found in the pronunciation of learners of English in Pakistan (Mahboob and Ahmar, 2004; Rahman, 1990, 1991; Syed et al, 2017), India (Gargesh, 2004; Sailaja, 2009; Wiltshire, 2005) and in other parts of the world (Iverson, Ekanayake, Hamann, Sennema, & Evans, 2008). A major reason for this confusion is that Khowar language has one approximant corresponding to two English consonants. The influence of L1 on L2 is already established in the literature (Best & Tyler, 2007; Eckman, 1991; Lado, 1957; Major, 2008).

A major question in this regard is 'how do we know that the participants of this study produced English [v w] like their L1 labio-dental approximant'? In response to this we point out that apart from a large body of literature which establishes influence of L1 on L2 acquisition, we can also seek support and provide evidence from acoustic analyses. If we compare phonetic and phonological features of [v] and [w] in English we realize that [w] is produced with lip-rounding but [v] is produced without lip-rounding in English. This is a major difference between these two consonants. We are already aware that lip-rounding lowers third formant (F3). That is why F3 of a vowel adjacent to [w] is lowered in the speech of native speakers of English (Ladefoged & Maddieson, 1996). Since there is no lip-rounding in [v], so we expect a significant difference between F3 of vowels adjacent to [v] and [w] in accurate English speech. If we do not see a significant difference between F3 values of the two tokens, it means either both sounds have been produced with equal lip-rounding or without lip-rounding. The latter is true in the current scenario because the mother tongue of the participants also does not have lip-rounding in the labio-dental approximant. For further verification of this conclusion we applied a paired sample t-test on the data obtained from the two target words. The results confirm that there is no significant different between F3 values in two types of productions ($t=.510$, $df=9$, $p=0.623$). Thus, we conclude that there is a strong equivalence classification between English [v] and [w] and the corresponding L1 labio-dental approximant; therefore, Khowar learners of English cannot differentiate between these two English consonants in their productions.

The findings of this study are according to the predictions of the speech learning model. The SLM predicts that if learners do not perceive a phonetic distance between L1 and L2 sounds, they develop equivalence classification between such sounds which blocks learning (Flege, 1995). However, we realize that these results can also be analyzed in the framework of the perceptual assimilation model (PAM) (Best, 1994, 1995). The PAM predicts that if two sounds of L2 are perceptually equated with one sound of the L1, learners feel extreme level difficult in acquiring such sounds (Wiltshire, 2005; Wiltshire & Harnsberger, 2006). Other studies conducted in different countries have also yielded similar results (Gargesh, 2004, 2019; Iverson, Wagner, Pinet, & Rosen, 2011; Sailaja, 2009). This model calls such a sound pair as 'Single Category' or SC type of sound. According to the predictions of PAM, SC type of sounds are difficult to acquire. Resultantly, learners produce a single L1 sound for such pair of sounds in L2. Exactly the same results have been obtained in this study. Khowar learners of English develop a single representation for these two sounds because they are SC type of sounds for them. This analysis provides us a clue that PAM can also be tested, applied and adopted in Pakistan as a useful model.

Finally, before we conclude, we forward a suggestion on how to address such learning difficulty to overcome this problem? For this purpose, we need to invoke the SLM again which predicts that if learners perceive a minor difference between two sounds, then they can produce such two sounds differently without fairly accurate pronunciation. Thus, if we want our learners to accurately produce these consonants of English, we need to let them realize phonetic differences between English [v] and [w]. Since the difference between these two is easy to highlight after we come to know the real nature of acoustic cues of these sounds in computer software, we expect that we can make our students develop a phonetic realization of these consonants and learn them accurately. This is just an example of a how we can address difficulties of learners in proper acquisition of English sounds. The same principle is quite applicable on a large scale which can be extremely helpful in improving the condition of English language learning (ELT) in educational institutions of Pakistan.

5. Conclusion

This study focused on difficulties in acquisition of [v] and [w] sound pair of English by Khowar learners. The pronunciation of participants was studied in software which reflected that Khowar speakers of English produce English [v] and [w] alike, which is, very much like their L1 labio-dental approximant. The findings of this study are in accordance with the predictions of the speech learning model. The SLM also predicts that if we train our learners to realize the phonetic difference between [v] and [w], we can teach them these two consonants accurately. Following this method, Pakistani learners of English can be trained in accurate pronunciation of English. Along with this, the current study also predicts that Perceptual Assimilation Model (PAM) also has potential to identify and resolve problems of learning English in Pakistan. This study was based on a small scale experiment focusing on two English consonants and one Pakistani language. But on the same pattern we can apply different models of English language teaching and learning and plan a solid procedure to address difficulties of student learners in Pakistan.

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