

An Effect of Linguistic Experience—Auditory Word Discrimination by Native and Non-Native Speakers of Hindi*

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Speech audiometry has become an integral part of the audiologic and otologic diagnosis of hearing impairment during last 25 years (Goetzinger, 1978). Speech audiometry is extremely helpful in identification, diagnosis and specification of site of lesion in hearing impairments.

India being multilingual country, requires speech tests materials in all Indian languages, This is because research has shown that speech audiometry should be done in one's native language (Singh, 1966 ; Sapon and Carroll, 1957). But still we lack in standardized speech tests in every language.

Hindi is one of the major languages spoken in India. There are many people who learn Hindi as their second language. Hindi PB lists are available to test discrimination ability (Abrol, 1971 and De, 1973). Thus one can test discrimination ability of using Hindi PB lists for those who can communicate in this language.

Recent studies have shown that apart from different factors effecting discrimination score, linguistic experience also influences discrimination ability (Singh, 1966 ; Saon and Carrall, 1957 ; Gat and

Keith, 1978 ; Bagli, 1972 and Miyawaki *et al.* 1975)., Thus it is important to know how linguistic experience would effect the auditory discrimination scores of native and non-native speakers. This would guide us while interpreting scores as used in some audiological test battery like central auditory disorders. Such tests are not only given in quiet condition but also with competing message. Thus evaluation of linguistic experience on auditory word discrimination was done in quiet condition as well as at different levels of competing message.

21 normal adult subjects, including 7 native and 14 non-native speakers of Hindi, were tested. 14 non-native speakers were divided into two groups depending upon the duration of exposure to Hindi language. Each group had seven subjects. These groups were termed as Group II short exposure to Hindi language and Group III: long exposure to Hindi language. Group I was native speaker's group.

All groups were administered Hindi PB lists developed by De in 1973. Four lists were used. List I was presented in quiet and remaining lists were presented with 12 dB, 6 dB and 0 dB signal-to-noise ratio respectively.

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Speech and noise was fed binaurally. The Madsen 0 B 70 clinical audiometer served the purpose of feeding recorded speech and internal white noise through earphones. Speech was presented at a constant level (76 dB SPL). Subjects were asked to repeat the words and response was recorded in a Philips portable tape recorder.

Discrimination score was calculated for each subject for each experimental condition. Analysis of variance was done to evaluate effect of linguistic experience, effect of noise and interaction of linguistic experience and noise on discrimination ability. Results were discussed.

Conclusions

1. There was no effect of linguistic experience beyond exposure of 5 years on auditory discrimination of Hindi PB words in quiet condition, *i.e.*, no background noise. All groups performed equally well.
2. Noise effected all the three groups. But the discrimination scores decreased more for non-native speakers of Hindi than the native speakers. Interaction of noise and linguistic experience was found significant. Results indicate that limited linguistic experience results in a

persistent deterioration of auditory word discrimination under degraded condition of audition.

3. Errors made were not similar for all groups. Most of the words were substituted by familiar and word with similar phonetical structure. High individual variability of responses was seen in native group. Some words which were phonetically clear to native speakers but other groups made maximum error, for example, फल, on some words error was committed by all the three groups like, कोट.

Recommendations

1. Study should be done with large population.
2. Study should include those who have no exposure to Hindi language.
3. Errors made by natives and non-natives should be analysed in terms of distinctive feature to gain extra information regarding nature of errors made.
4. Non-native speakers with different native languages should be taken.
5. Clinical population should be studied.