

RATE OF SPEECH IN DIFFERENT INDIAN LANGUAGES*

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Rate of speaking is traditionally described as the number of words spoken per minute during a complete speech performance (Kelly and Steev, 1949). This would include all pauses intentional and unintentional and the meaningful words spoken in unit elapsed time. Recent investigation has indicated a relationship between syllable duration and speaker intelligibility. Even laymen seem to link up unintelligibility with rate of speech though it is often mentioned in the converse relationship. They seem to infer a faster rate of speech is unintelligible. Any tourist in foreign countries must have had the complaint that the tourist speaks very fast while he himself felt that the natives were very fast. Actually they were both saying that they do not understand each other. It has often been claimed that Indian languages, the South Indian language in particular are very fast.

In addition to affecting intelligibility, rate of speech is a characteristic that does not receive as much attention as it deserves from speech. However, recent reviews have expressed that change of rate of speech seems to be the common factor in many different approaches to stuttering therapy. Prolongation has been found by us to be an economical time saving for the case and escort and effective, treatment for stuttering. We have found that keeping the passages constant and varying the amount of prolongation would be a useful measure of the rate of speech in general and of the rate of prolongation most suited to the individual cases. Though rates of speech are important, studies on the rate of speech have been rare.

It is in this circumstance that we are attempting to develop rate of speech measurement.

Methodology

Five languages, Hindi, Punjabi, Kannada, Tamil and Marathi were taken up for the study. Three native speakers for each language were taken as subjects.

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Subjects were asked to read a chapter from a book for five minutes. We let the subject choose arts or science topic depending upon his taste and experience. The reading material was collected from Central Institute of Indian Languages. The level of difficulty was presumably same in all languages as per reports from that institute.

Each subject was asked to read and it was recorded for 5 minutes, using a Philips N-2218 automatic recorder. Then they were asked to speak for 5 minutes which was also recorded. This spontaneous speech was regarding a subject of their own interest.

However, randomly chosen time intervals of 1 minute were taken for analysis to help achieve average scores of rate of speech. This recorded data was analysed by a qualified Speech Pathologist. Out of 5 minutes duration of reading passage and spontaneous speech, randomly chosen speech samples of one minute were taken and analysed for words per minute and syllables per minute.

Implications

Information is now collected for normal speakers. This rate could be beneficially utilized in therapy techniques for stuttering and cluttering, where change of rate of speech seems to play an important role. Standardized passages which could be used for testing and quantifying rate of speech can be developed. These rate of speech measurements could be well utilized for making comparative statements regarding individual differences and variations in speech.

Results

We have found the following:

Marathi

Subjects	Passage Words	Reading Syllables	Spontaneous Word*	Speech Syllable
I	145	387	120	310
II	126	333	113	322
III	121	345	137	403
TOTAL	392	1065	370	1035
Mean	130.66	355.00	156.66	345.00

Conclusion and Summary

The rate of speech has been indicated. However, it has to be remembered that rate of speech does vary according to state of mind or of the environment.

Hindi

Subjects	Passage Words	Reading Syllables	Spontaneous Words	Speech Syllables
I	162	389	123	261
II	193	443	190	269
III	239	489	148	296
TOTAL	594	1321	461	826
Mean	198	437	153.66	275.33

Punjabi

Subjects	Passage Words	Reading Syllables	Spontaneous Words	Speech Syllables
I	174	351	128	271
II	159	327	148	282
III	186	326	171	400
TOTAL	489	1004	447	953
Mean	163	334.66	149	317.66

Kannada

Subjects	Passage Word*	Reading Syllables	Spontaneous Words	Speech Syllables
I	95	450	99	397
II	111	464	135	475
III	73	375	100	396
TOTAL	279	1289	334	1268
Mean	93	429.67	111.33	442.66

Tamil

Subjects	Passage Words	Reading Syllables	Spontaneous Words	Speech SyUables
I	136	501	109	447
II	123	518	119	470
III	123	492	121	428
ToTAt	382	1511	349	1345
Mean	127.33	503.70	116.33	448

Five languages Hindi, Kannada, Tamil, Marathi and Punjabi were taken for study and 3 native speakers for each language were taken and their speech for 5 minutes was recorded and randomly, 1 minute was taken for analysis.

This was done to establish language habit measurements. Modifications from the speaking pattern could be guided by rate of speech. We now plan to set up standard 1 minute passages in an attempt to quantify several stages of prolongation.

REFERENCE

Kelly, J. C. and Steev, M. D., Revised Concept of Rate, %*S.H.D.*, Vol. 14, No. 3, 1949, pp. 229-236.