EFFECTS OF HIGHLIGHTING FLUENCY AND DYSFLUENCY IN STUTTERER

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INTRODUCTION

Flanagan, Goldiamond and Azrin (1958) were the first ones who described operant control over stuttering. The application of these operant principles for the treatment of stuttering has been principally in two : ways (l) punishment or use of aversive contingencies for the unwanted dysfluencies, (2) reward or use of positive non-aversive contingencies with the fluency. Some authors however used both punishment for dysfluencies and rewards for fluency.

It was found by several authors that apperantly nonaversive positiv stimuli as well as those having non-rewards stimuli decreased stuttering. Vijayalaxmi (1973) found the three verbal stimuli good, no and zehu all decreased stuttering. Martin and Seigel (1966) found that "good" for every 30 seconds of fluency and "not good" for every instance reduced stuttering. And some neutral stimulus for eg., a buzzer also reduced stuttering.

Martin and Seigel postulated the highlighting hypothesis where they stated that the dysflueneies by themselves are potential carriers of their own punishment, and anything that increases the subject's awareness to it induces punishing properly thereby causing them to decrease. Vijayalaxmi (1973) explained her indifferential effects of the three verbal stimuli on the highlighting phenomenon. Basvalingappa (1980) explained that even the time out acted as highlighting. Srinivas (1981) studied the effect of highlighting the fluency and found a decrease in dysfluency.

Thus the review of literature is suggestive of potential effect of highlighting.

The need for the study :

The present investigation was undertaken to test the effects of highlighting fluency and dysfluency on the stutterers separately.

METHODOLOGY:

The experiment included six adult male stutterers. All the subjects underwent, three experimental conditions. In Experiment-1 the subject read a book for fifteen minutes and spoke on a topic of his own interest for fifteen minutes. Such three sessions were conducted. In Experiment-2 the subject read a passage from a book for three ten minute sessions. In the first 10 minute Experiment 2-A no highlighting stimulus was presented. In the second ten minute Experiment 2-B the highlighting stimulus was presented. The third ten minute Experiment 2-A' was similar to Experiment 2-A when no highlighting stimulus was presented.

Each subject underwent the Experiment- 2 five times. The Experiment-3 was similar to Experiment-1. All the sessions were recorded using Phillips tape recorder and Sony cassettes and were analysed for the members of blocks by two post graduate students in speech and hearing who acted as judges, and were transcribed for finding out the syllable output.

Three of the six stutterers underwent highlighting of fluency in reading. Two were subjected to highlighting of dysfluency in reading, and one person received highlighting of dysfluency in spontaneous speech.

RESULTS AND DISCUSSIONS

The results were compared for the change in the number of blocks and the syllable output. The following comparisons were made :

1. Experiment-1 was compared with Experiment-3
2. Exparíment-2 A was compared with Experiment 2-A'
3. Experiment-2-A was compared with Experiment-2-B
4. Experiment-2-B was compared with Experiment-2-A'

The statistical analyses of the difference was done using Wilcoxon Matched Pair Signed Rank Test.

The significance of the difference between the results is shown in Table-1 and Table-2. The mean number of blocks are presented in Table-3 and the syllable output in Table-4. The Subject-! showed a difference in the mean number of blocks in reading and there was difference for syllable output both in reading as well as spontaneous speech. But there was no change in the mean number of blocks.

i Subject-3 showed no change ia the mean number of blocks but there was significant increase in the syllable output both in reading as well as spontaneous speech.

Subject-5 similarly showed no change in the mean number of blocks but there was significant increase in the syllable output both in reading as well as spontaneous speech.

The Subject 1, 3 and 5 received highlighting of fluency.

The Subject-2 showed significant difference in both number of blocks as well as with respect to syllable output in reading as well as spontaneous speech.

Subject-4 similarly showed significant difference in both number of blocks as well as syllable output, both in reading as well as spontaneous speech.

Subject-2 and 4 had received highlighting of dysfluency in reading.

Subject-6 who had received highlighting of dysfluency showed a similar result as Subject-2 and 4.

A peculiar phenomenon in this experiment was observed that with the introduction of the highlighting stimulus there was sharp increase in the number of blocks, subsequently a steep fall followed it. This was explained by the operant extinction curve proposed by Azrin and Holtz (1969).

CONCLUSION :

Highlighting of either fluency or dysfluency increases the syllable output and decreases stuttering. .

TABLE-1

Table showing the significance of difference of the number of blocks in each part of the Experiment.

Subject	Condition	Experiment, part-1 Vs Experiment, part-3		Experiment, part-2		
		Spontaneous speech	Reading	A Vs B	B Vs A^1	A Vs A1
1	Highlighting fluency in reading	+		+	+	-
3	Highlighting fluency in reading	-		-	+	-
5	Highlighting fluency ia reading	-		+	+	+
2	Highlighting Dys-fluency in reading	+ -		-	-	-
4	Highlighting Dys-fluency in reading	+	+	+	+	-
6	Highlighting Dys-fluency in spontane-ous speech	+	+	+	+	+

TABLE-2^

Table showing significance of syllable output difference in each part of the Experiment ,

Subject	Condition	Experiment, part-1 Vs Experiment, part-3		Experiment, part-3					
		Spontaneous speech	Reading	AVsB		BVsA1		AVs A1	
1	Highlighting fluency in reading	+	+	-		-		-	
3	Highlighting fluency in reading	+	+	+		+		-	
5.	Highlighting fluency in reading	+	+	-		-		-	
2	Highlighting dysfluency in reading	+	+	-		-		-	
4	Highlighting dysfluency in reading	+	+	+		-		-	
6	Highlighting dysfluency in spontaneous speech	+	+	+		-			+

TABLE-3

Table showing mean number of stuttering blocks per minute in each part of the Experiment for all the subject.

Subject	Condition	Experiment, part-1		Experiment, part-2			Experiment, part-2	
		Spontaneous speech	Reading	A	B	C	Spontaneous speech	Reading
1	Highlighting fluency in reading	5.6	5.9	4.22	2,54	4.16	7.0	2.6
3	Highlighting fluency in reading	5.1	4.0	3.2	2.54	3.5	4.9	4.3
5	Highlighting fluency in reading	6.4	6.3	3.24	2.62	4.08	6.1	4.2
2	Highlighting Dysfluency in reading	6.3	2.9	4.8	4.8	4.56	9.3	3.1
4	Highlighting Dysfluency in reading	2.8	7.7	1.8	1.22	1.58	2.2	5.6
6	Highlighting Dysfluency in spontaneous speech	5.4	3.2	7.26	4.62	5.5	4.5	2.2

Table-4

Table showing mean number of syllable output in each part of the Experiment for all the subjects

Subject	Condition	Experiment, part-1		Experiment, part-2			Experiment, part-3	
		Spontaneous	Reading	A	B	C	Spontaneous	Reading
1	Highlighting fluency in reading	125.5	212.1	238.62	239.16	240.6	142.7	257.3
3	Highlighting fluency in reading	97.5	1472	236.36	250.64	238.24	114.4	264.7
5	Highlighting fluency in reading	112.3	168.6	225.24	244.4	244.82	123.7	262.9
2	Highlighting dysfluency in reading	665	137.0	150.64	148.06	151.14	74.2	159.4
4	Highlighting dysfluency in reading	136.8	274.5	294.76	286.7	289. 5	143.4	321.6
6	Highlighting dysfluency in spontaneous speech	145.5	207.8	122	139.26	145	175.5	221.6

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