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ABSTRACT

Feedback by teacher comment, by television playback, and by self-analysis, singly, or together, reduced anxiety in subsequent performance as measured by nonfluencies in speech. Nonfluencies were counted in eight categories: the sounds, "ah," "um," or "uh;" correction; sentence incompleteness; repetition; stutter; intruding incoherent sound; tongue slip; and omission. Performance in six treatment groups ranged from a low of 10.4 nonfluencies when there was videotape recording, teacher comment, and playback to a high of 37.1 nonfluencies when there was no videotape recording, no comment, and no playback. Since videotape playback without teacher comment resulted in almost double the nonfluencies (21.3) of those resulting from videotape playback with teacher comment, the conclusion was reached that a positive interaction between the two practices is to be desired. It is interesting that the mere presence of a television camera and recorder reduced student anxiety somewhat, perhaps, because of a "Hawthorne" effect. (MF)

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EFFECT OF VIDEOTAPE PLAYBACK AND TEACHER COMMENT ON ANXIETY DURING  
SUBSEQUENT TASK PERFORMANCE

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There has been considerable questioning of late of the correct usage of videotape playback in teaching skills. No longer is it taken for granted that videotape playback of itself will improve performance. Thomas Stroh (1968) in a book sponsored by the American Management Association has listed many of the pitfalls of incorrect usage of television recording in a training situation and suggests that the trainee can be detrimentally affected by negative feedback. Alkire (1969) surveyed the uses of videotape playback in the fields of education and mental health. Both studies, which were descriptive and eclectic, point out that there is a paucity of experimental evidence available to allow one to assess the correct usage of videotape playback as an instrument of behavioral change. Both discussed the effects of visual self-confrontation on the student but posed more questions than they answered. The present study is designed to provide experimental evidence in this area.

Anxiety Stroh suggested that one of the chief detrimental factors in the effects of videotape playback was the anxiety which might be evoked by the initial self-confrontation. The work of Mahl (1959) has provided a reliable indicant of anxiety in the nonfluencies of the respondents' speech. Using Mahl's instrument, this study used nonfluencies as a measure of anxiety in beginning speechmakers subjected to videotape playback, self analysis, and teacher comment.

The Instrument Nonfluencies were operationally defined as eight categories based upon those reported by Mahl and consisting of the following:

1. "Ah." Wherever the definite "ah," "um" or "uh" occurred, this nonfluency was counted.
2. Sentence Correction. A correction in the choice of word or words while the sentence content remained basically unchanged. For example, "The Black Muslims benefit the Negro by insisting on high morality . . . . moral standards." To be scored, these changes must have been sensed by the listener as an interruption in the word to word sequence.
3. Sentence Incompletion. An expression is interrupted, clearly left incomplete, and communication proceeds without interruption.
4. Repetition. The serial superfluous repetition of one or more words.
5. Stutter. The serial, superfluous repetition of sounds.
6. Intruding Incoherent Sound.
7. Tongue Slip. Transpositions of word order, neologisms, and substitutions of an unintended word for an intended word are included here.
8. Omission. Words or parts of words may be omitted.

Mahl reported an inter-observer reliability of .94 for his instrument. An exact agreement of three independent scorers in the present experiment was 80.5% which provided adequate reliability.

Mahl posits a Speech Disturbance Ratio = 
$$\frac{\text{No. of Speech Disturbances}}{\text{No. of words in the sample}}$$

Since in the present experiment each subject was given the same amount of time (5 minutes) for each speech, any discrepancies (such as differences in rates of speech, early or late finishers) would tend to cancel out. Hence, the number of nonfluencies would reflect the amount of disturbance or anxiety.

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The Experiment As an initial step investigating whether television playback, teacher comment and student self analysis had an effect on students' anxiety, this experiment was conducted comparing the effects of the three treatments.

The primary purpose of the study was to test the hypotheses:

1. Teacher comment following practice task performance lessens anxiety in the subsequent performance.
2. Videotape playback lessens anxiety in subsequent performance.
3. Teacher comment and videotape playback together lessen anxiety in subsequent performance.
4. Formal verbalized self analysis and videotape playback lessens anxiety in subsequent performance.

The Procedure There were six treatment groups taken from beginning speech classes at Northern Illinois University. Subjects selected their own sections in what was assumed to be a random manner. Factors such as time of day and reading assignments which might affect the composition of the classes were held constant. Treatments were assigned to sections at random. Total sample size was 110. n for treatment groups varied from 14 to 23.

The first speech for each member of each treatment group was treated in the following manner:

Group 1	VTR	Comment	Playback
Group 2	VTR	Self Analysis	Playback
Group 3	VTR	No Comment	Playback
Group 4	VTR	No Comment	No Playback
Group 5	VTR	Comment	No Playback
Group 6	No VTR	No Comment	No Playback

The "self analysis" (Group 2) treatment meant that the student was required to comment formally on his performance in the classroom.

Following the treatment speech a second speech for each of the experimental groups was recorded on audio tape. Coding of nonfluencies was then carried out for each of the six treatments.

A paired comparisons design resulted in fifteen calculated t values as summarized in Table 1. Mean differences and t values are in Table 2.

Table 1: Frequency of Nonfluencies in Subsequent Performance

Treatment	VTR/ No VTR	Teacher Comment	Playback/ No Playback	Mean of Nonfluencies	5% Significant Difference
A	VTR	Comment	Playback	10.4	< D, E, F
B	VTR	Self-Analysis	Playback	13.2	< E, F
C	No VTR	Comment	No Playback	14.4	< F
D	VTR	No Comment	No Playback	19.6	< F
E	VTR	No Comment	Playback	21.3	< F
F	No VTR	No Comment	No Playback	37.1	

Table 2: Mean Differences and t Values for Treatment Groups

Groups	DF	Mean Difference	Standard Error	t Value	
A - D	29	9.28	4.80	1.93	*
A - E	36	10.93	3.98	2.74	**
A - F	34	26.80	5.11	5.24	***
B - E	35	8.09	4.45	1.81	*
B - F	33	23.97	5.48	4.36	***
C - F	40	22.76	5.49	4.14	***
D - F	31	17.51	6.49	2.69	**
E - F	38	15.87	5.91	2.68	**

\* p &lt; .05

\*\* p &lt; .01

\*\*\* p &lt; .005

## Results and Conclusions

From Table 1:

1. When VTR playback of practice performance was accompanied by teacher comment, students exhibited less anxiety in the subsequent performance of the task, than when the VTR playback was presented to them without teacher comment, or when no teacher comment nor playback was available.
2. Similarly, when VTR playback of practice performance was accompanied by a verbalized self analysis of the performance, students exhibited less anxiety in the subsequent performance of the task than when the VTR playback was presented to them without teacher comment, or when neither playback nor teacher comment was available.
3. When a practice performance was accompanied by teacher comment without VTR, the students exhibited fewer nonfluencies in their subsequent speech than when there was neither comment nor VTR playback available.

From 1, 2, and 3 therefore one is able to conclude:

- a) When practice performance was followed by teacher comment, students exhibited fewer nonfluencies in the subsequent performance of the task than when no comment was available.
- b) There were no statistically significant differences between the groups which included teacher comment as part of the treatment. It might be worthwhile noting, however, that fewer nonfluencies were found with the Comment-plus-playback treatment, secondly with the self-analysis-plus-playback treatment, and in the third place was the comment alone treatment without VTR.
4. When the initial speech was videotaped, but no teacher comments made, students in their following speech exhibited significantly fewer nonfluencies than when no videotape nor comment were utilized. There was no significant difference, however, between the group which played back the videotape and the group which did not, although the playback group exhibited fewer nonfluencies.

## Explanation

Because of the marked increase in nonfluencies between the No VTR-No comment-No playback group and all of the other groups, the explanation is posited that the group felt anxious because they felt no response at all to their efforts. Perhaps a "Hawthorne" effect was operating as even the knowledge that they were being observed by a television camera and recorded seemed to make a difference.

Summary

For pedagogical purposes some inferences may be made from the above results:

1. Feedback from practice performance is important to the student in the reduction of anxiety in subsequent tasks.
2. The results indicate the primacy of teacher comment in the feedback loop. Formal verbalized self analysis seems to be a good substitute for teacher comment.
3. The VTR playback alone does not seem to be a good substitute for teacher comment. The trend would indicate a positive interaction between VTR playback and teacher comment----a kind of "hybrid vigor."
4. The mere presence of the television camera and recorder----or the knowledge that they are being observed and recorded----tends to reduce students' anxiety in subsequent performance.

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