The purpose of this study was to determine if behavior recording strategies in a field setting would increase the verbal responsiveness of prospective teachers participating in informal, small group discussions. The sample consisted of 192 male and female undergraduate education majors enrolled in an introductory educational psychology course. Subjects were randomly assigned to 12 discussion groups and to three treatments. The three treatment conditions used were: a) the student recorded his own talking behavior, b) the discussion leader recorded the subject's talking behavior with the subject's knowledge, and c) the control condition in which responses were recorded by the instructor with the student's knowledge. All groups met weekly for one 50 minute discussion period. Following the 4-week treatment period, subjects that had averaged four or more responses for the first and second recording sessions were eliminated from the statistical analysis. The remaining 120 subjects were identified as "passive" and only for these subjects were the analyses performed. Results indicated that recording strategies can increase the level of verbal responsiveness for passive students under the conditions described. A 9-item bibliography is included. (MIM)
Strategies For Increasing Self-Initiated Verbal Interaction

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Reasons some students remain passive during discussion periods or avoid taking part in the verbal exchange have been of continuing interest to teachers. A variety of explanations can be offered for such reticence — no interest in or knowledge of the subject matter, insecurity over making responses that may not be acceptable to teachers, peers, or both (Feldhusen, 1966), and not being able to "express themselves" (Applegate, 1969). That is, his reinforcement history may lead to discrimination of such a group discussion situation as an $S^P$.

Further, as these students become older and enter college, the phenomenon often persists, and reluctance toward participating in discussion may heighten.

Several methods or techniques have been suggested to encourage passive students to speak more during discussion. These include allowing the students to use notes suggesting topics for individual reports to the class, giving the student an outline or overview of content before discussion respecting any response given, using panel discussions, and breaking the class into small groups. All have been used by teachers at one time or another with varied success (Weintraub, 1970).

As in any other college curriculum, a number of reticent students enrol in teacher training programs preparing to become classroom teachers. They
read and are told that the classroom teacher needs to be able to evoke discussion behaviors from his students, but many of these same students continue to be passive during discussion. Even breaking the class into informal, small group discussion sessions does not always facilitate responding, and in some cases, such a procedure may further discourage students by removing the security of anonymity in the larger classroom. Methods of encouraging increased participation noted previously tend only to indirectly address the problem and do not offer direct feedback to the student about the degree of the problem. When confronted with the suggestion that they rarely respond, common responses include, "I've contributed more than that," or "I talk as much as anyone else."

Increasing talking responses would appear to depend to some extent upon sensitizing the passive student more directly to the fact that he does not verbalize. Such a procedure for undergraduate students should operate without the use of aversive or otherwise embarrassing techniques. Moreover, sensitization should be effected through the student's active participation; feedback is thus provided by the activity rather than by the instructor. Fostos (1968) suggests that sensitization to passivity should lead the student to "discover" his deficiency rather than being confronted by others telling him.

Descriptive interest in group structure and dynamics has provided little in the way of behavioral manipulations or change strategy paradigms. Primarily, research efforts have been directed toward such topics as relevancy of discussion to performance, status of the leader in regard to amount of talking, and group size as it effects opportunity to participate.
The purpose of this investigation was to determine if behavior recording strategies in a field setting would increase the verbal responsiveness of prospective teachers participating in informal, small group, discussion. More specifically, it was assumed that there should be significant increases in the number of verbal initiations by those students who record their own verbal responses or who know that their responses are being recorded by the instructor, compared with naive groups with no knowledge that their responses are being recorded.

Method

Subjects

The initial sample consisted of 192 male and female undergraduate education majors enrolled in an introductory educational psychology course. All students were required to attend small group discussions as part of the course requirements. These discussions informally considered the content of educational psychology with regard to teaching practice and were led by a graduate instructor. The 192 subjects were randomly assigned to 12 discussion groups (16 per group), and these groups were in turn randomly assigned to one of the three recording-treatment conditions. Each of four graduate instructors had responsibility for three groups (one in each treatment condition). The sample analyzed actually consisted of 120 of the original group (192) since the remainder did not qualify as passive, as will be subsequently discussed.

Treatment Conditions

Three differential behavior recording strategies were used: (1) SR Condition — the student recorded his own talking behavior; (2) UR Condition — the student recorded the talking behavior of another student in the group; (3) IR Condition — the instructor recorded the talking behavior of all the students in the group.
the discussion leader recorded the subject's talking behavior with the subject's knowledge; and (3) CC Condition -- the control condition in which responses were recorded by the instructor with the subject's knowledge.

Procedure

All groups met weekly for one, 50 minute discussion period. Attendance was not rigidly enforced, and no systematic incentives for attendance were arranged. Beginning with the third week of group discussion the recording procedures were explained and actual recording began and continued for four consecutive weeks. Subjects in the SR condition were provided with a response sheet instructing them to tally every initiated response in the "you" space, and also the responses of another group member whose name appeared in the "other" space. An initiated response was defined as follows:

Responses to questions or comments directed to the group in general by the conference leader or responses by you to the group and/or conference leader will be considered as student initiated. As long as you are in the process of continuous responding (such as making a point about a particular topic), such responding will be tallied as 1 initiated response. However, if your continuous responding is interrupted (such as another student commenting on or interrupting your remark), and then you in turn respond once again, these responses would be tallied as two initiated responses. These conditions also apply when determining responses for the "other" person.

Responses by subjects in LR groups were recorded on a similar response sheet by the instructor, but with the subject's knowledge.
initiated responses were recorded by the instructor without the subjects' knowledge.

Training sessions were given to systematize and operationalize the recording and questioning behaviors of the four graduate instructors. To partially control for possible "Hawthorne effects", SR subjects were instructed that the purpose of the recording was to check the reliability of students' recording behaviors while participating in discussion. Similarly, subjects in IR were told that recording was being done to indicate how well an instructor could record behavior (of any kind) while taking part in class discussion. The general indication was that the recording was connected with a future research project. Students in CC were not aware of the recording which was camouflaged by using normally seen roll sheets.

Results

Following the four week treatment period, subjects' protocols that had averaged four or more responses for the first and second recording sessions were eliminated from the statistical analyses. The remaining subjects (N = 120) were identified as "passive", and only for these subjects were the analyses performed. Although more than 120 were identified, random deletion was made to equalize cell numbers at 10 for each instructor or 40 per condition.

A 3 x 4 x 4 mixed analysis of variance of these data was performed, with the three recording conditions and four instructors as the between subjects factors and four repeated sessions or trials constituting the within subject factor. This analysis yielded a significant main effect
due to recording ($F = 6.01, df = 2/99, p < .01$) and a significant interaction of sessions and recording conditions ($F = 2.12, df = 6/504, p < .05$). Multiple comparisons by the Duncan procedure indicated significant differences between SR and LR, between SR and CC, and between LR and CC ($p < .01$). Additional comparisons among trials yielded a significant increase from the first to the fourth session in the SR condition only ($p < .05$). This interaction is depicted in Figure 1.

These results show that the mean frequency of responses was significantly greater for subjects in the SR condition than for subjects in either LR or CC conditions. LR subjects also initiated more responses than those in the CC conditions. The SR groups also increased in response rate from the first to the final week. Additionally, no significant effects were attributable to the group leader variable. Apparently, the orientation sessions were effective for minimizing potential instructor variation.

Product moment coefficients of correlation were computed for subjects in the SR condition between "you" and "other" responses to check student reliability as recorders while participating in class. Reliability coefficients for the four SR groups were $r = .76$, $r = .79$, and $r = .78$.

Discussion

In general, the findings of the investigation indicate that recording strategies can increase the level of verbal responsiveness for passive students under the conditions described. Apparently, students can "desensitize" their passivity through a behavior recording process, and thereby
more directly "discover" the paucity of their verbal behavior (Fostos, 1968). He "tells himself" about his lack of behavior rather than being told or reminded by others, and is actively responding in the presence of a discriminative stimulus. The tally may come to constitute positive reinforcement for verbal responding. Group approval for constructive response may take over to maintain the behavior. An alternate interpretation might propose negative reinforcement of verbalization through removal of peer or instructor pressure to participate.

In practice, sensitizing the passive prospective teachers toward greater verbal participation may well be accomplished in small group settings via similar recording strategies. The question of extent of transfer and whether passivity reoccurs when recording is discontinued, remains. However, it should be noted that the level of performance achieved was maintained through the remaining four weeks of the semester in several of the SR groups that were randomly checked by the instructor recording without subjects' knowledge. Other investigators have demonstrated that numerous kinds of experimental behavior changes may persist (Meacham & Wiesen, 1970; Bandura, 1969). Further, although the quality of the contribution to class discussion was not evaluated in the present research, there was no indication that students were making mundane comments to increase their counts.

The reliability of subject's performance as recorders in SR groups was sufficient (mean $r = .79$) to consider such data as scientifically admissible. These results suggest that student or participant observers may be one way to avoid the "observer effect" in classroom studies. It is well known that observers or recording teams external to the normal
classroom process, have an effect on the classroom climate and resultant student behaviors (Kerlinger, 1964). Such an effect may persist even beyond three or four observation periods. A more natural field study environment may be created by selecting and training observers who are normally group members. To obtain uncontaminated baseline responding, group members other than the target individual(s) can observe and record surreptitiously. However, as a behavior change-sensitization procedure, recording of self or other’s behaviors by the target subjects should be considered.
References


Footnotes

1 Now at West Virginia State College

2 Reprints may be obtained from Richard T. Walls, Educational Psychology Department, West Virginia University, Morgantown, West Virginia 26506.
Figure Caption

Figure 1. Mean initiated verbal responses of subjects in student record (SR), leader record (LR), and control (CC) conditions.