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ABSTRACT

Educators assume that preservice teachers will modify their behavior in response to feedback. Teacher training programs that support this assumption typically utilize videotaping or microteaching techniques to provide prospective teachers with the feedback needed to reinforce "good teaching" behavior. This study was conducted to evaluate the impact of supervisor grading on students' attitudes toward the microteaching experience and teaching in general. The study also tested the assumption that supervisor grading adversely affects preservice teacher attitudes toward themselves, their teaching, and the teaching profession. Participants in the study were 175 students who were asked to complete an attitude questionnaire. Findings indicate no significant adverse effects were produced by supervisor grading alone. Results further suggest that demonstrating simple teaching tasks, such as giving directions for a homework assignment or teaching a lesson using multiple senses in front of a video camera, creates a healthy level of anxiety among prospective teachers and produces positive attitudes and behavior modification. Videotaping appears to have a profound impact on how a preservice teacher will perform in front of a classroom and how the teacher education program is viewed. A copy of the microteaching Attitude Questionnaire is appended. (LL)

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Effects of Videotaping on Pre-Service Teacher Performance

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Running Head: Videotapping

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Educators assume that pre-service teachers will modify their behavior in response to feedback. Teacher training programs that support this assumption typically use videotaping or microteaching techniques to provide prospective teachers with the feedback needed to reinforce "good teaching" behavior. Although teacher education institutions have been purchasing video equipment for twenty-eight years and students have been registering for microteaching classes, no one really knows how best to optimize feedback and reinforcement following practice.

Although microteaching experiences have been conducted since 1963, little research is available on the effectiveness of feedback. When microteaching was first introduced at Stanford University by Professors Allen, Bush, and McDonald (Macleod, 1987; McKnight, 1971), the training model basically involved four steps: (1) the trainee is exposed to a specific teaching skill; (2) the student demonstrates the skill during a 5-10 minute videotapped lesson; (3) the pupils and supervisor critique the lesson; and (4) the trainee incorporates the feedback into a reteach lesson (Kallenbach & Gall, 1969). The model has changed somewhat since its inception to include such features as longer videotapped lessons, supervisor grading of the lesson, and self-critiques rather than peer reviews.

Despite some minor alterations, it is important to note that the theoretical foundation for microteaching has remained behavior modification (Fuller & Manning, 1973). As Skinner so concisely states:

> The whole process of becoming competent in any field must be divided into a very large number of very small steps, and reinforcement must be contingent upon the accomplishment of each step.

In addition to the actions of the novice, the supervisor plays a key role in the behavior modification program, since this specially trained individual is entrusted with the responsibility of providing information about trainees' performance that will assist them in

the acquisition of teaching skills (McKnight, 1971; Peterson, 1973). It is the supervisor who leads the trainees to change their behaviors rather than simply critique their actions (Wragg, 1971).

Problem

In order to receive the maximum benefit from videotaping, it is hypothesized in this research that supervisor grading of pre-service teacher microlessons has an adverse impact on trainee attitudes toward themselves, their teaching, and the teaching profession. This hypothesis is based on the belief that prospective teachers need to develop positive attitudes toward themselves and their teaching if they are going to fully benefit from videotaping and improve their teaching techniques.

The purpose of this study was to evaluate the impact of supervisor grading - one important aspect of feedback - on teacher attitudes by comparing pre and post grading attitudes of students toward the microteaching experience and teaching in general. The prediction is that students who receive low grades on their teach and reteach experiences will have a negative impression of the grading process, will be critical of the microteaching experience, and will be dissatisfied with their teacher education program.

Method

Subjects for this study, none of whom had formal classroom experience as a paid teaching professional, were enrolled in seven sections of a principles of teaching course required of all secondary majors during the 1989-1990 schooi year at The University of Akron. 199 students were surveyed during their initial microlesson for tasks 2 and 3, and 175 completed the questionnaire during their reteach lesson for tasks 2 and 3. (The difference in subjects is due to the fact that students who receive a perfect score on their initial or teach lesson do not have to reteach the lesson.)

The course met for lecture three times a week for fifty minutes, during which time all subjects received the same skill training. In addition, the students were required to teach 4 microlessons over an eight week period in the College of Education's microteaching

laboratory. Prior to each microteaching session, the course instructor discussed the skills the students would be required to demonstrate in the lab and shared ideas regarding teaching techniques appropriate for the task.

During the teach and reteach portions of microlessons 2 and 3, students were asked to complete an attitude questionnaire (See Appendix A). The attitude questionnaire was composed of concepts taken from Osgood's potency, activity, and evaluative factors (Salomon & McDonald, 1970). Concepts rated by the pre-service teachers on an adjective based point scale included: My Lesson Delivery, My Classroom Appearance, Me as Viewed by the Students During the Microteaching Lesson, Me as Viewed by the Supervisor of the Lesson, Me as a Professional Teacher, Me as a University of Akron Student, Me with a Camera in the Microteaching Classroom, My Grading Experience in Microteaching, and My Teacher Education Program. The adjective scale was scored from most negative (1) to most positive (7). The adjectives and the direction of the scales were randomly reversed.

The instrument was pilot tested during the 1989 summer session using 25 students in the principles of teaching course required for all secondary majors. Minor changes were made to the directions that appear on the questionnaire as well as the demographic data collection portion of the instrument. Testing results indicated that the concepts surveyed and the descriptive adjectives used were appropriate for the subjects and easily interpreted. In addition, a statistical program called Test Stat was used to determine that a subscale for anxiety (ANX) existed among the variables embodied in the questionnaire. The subscale included lesson delivery, classroom appearance, student views, supervisor views, level of professionalism, student status, teaching in front of a camera, grading, and feelings toward the educator's program of study.

Thereafter, the improved instrument was filled out by each student immediately after the lesson and again immediately after receiving the supervisors grade for the lesson.

All completed questionnaires were collected by the lead supervisor and sealed in an envelope for subsequent analysis.

Results

Teach 1 (pre-grading survey results for Fall 1989 and Spring 1990) and Teach 2 (post-grading survey results for Fall 1989 and Spring 1990) showed that there was a greater percentage of female sophomores enrolled in the principle classes during the survey period, but a greater percentage of male seniors and post-baccalaureate students.

In addition, results of the study indicated that there was a significant positive correlation between ANX (the anxiety subscale) and lesson, ANX and grading, ANX and program. Other subscale items were mostly positive and significantly correlated with three exceptions: (1) Lesson delivery with status as a University of Akron student on Teach 1; (2) Status as a University of Akron student with Supervisor views of the lesson on Teach 1 and 2; and (3) Students level in school (1= Sophomore, 2 = Junior, 3 = Senior, 4 = Post-Baccalaureate) is negatively correlated with students attitude toward their teacher education program. This negative correlation was significant in Teach 1, but not significant in Teach 2.

Table 1 presents T-Test results and Wilcoxon Scores of the differences between means of Teach 1 and Teach 2 or pre-grade and post-grade attitude survey for the variables anxiety, grading, and program at the .05 alpha level. Results indicated that male students felt more anxious about their lesson, appearance, peer review, supervisor feedback, professionalism, student status, videotaping, grade, and educational program before they received any feedback from their peers or a grade from their supervisor. Moreover, the tests indicated that female students rated supervisor grading more precise after they viewed their scores for the micro-lesson. Finally, female students felt stronger about or more confident in their teacher education programs after they received feedback from their peers and viewed their scores with the supervisor.

Table 1

T-Test Results and Wilcoxon Scores

Teach 1	Teach 2
The mean ANX level was higher for males on both tests ; p =.05 T-Test; p = .03 WS	No significant difference
No significant difference	Grading was higher for females on WS; p = .04
No significant difference	Program was higher for females on WS; p = .04

Tables 2 and 3 present Kruskal-Wallis test results for select variables and indicate the order in which different levels of students (sophomore, junior, senior, and post-baccalaureate) were ranked. According to the test results, the mean for the anxiety subscale differed among student academic levels. Seniors in the principle classes were more anxious than juniors, sophomores, and post-baccalaureate students before receiving feedback in the form of class discussion and their grade for their microlesson. Likewise, the means for lesson, appearance, profession, Akron, and camera differed among student academic levels. Finally, there is a significant difference between student attitudes toward their teacher education program before and after grading. Before feedback, seniors view their program stronger or more positively than sophomores, juniors, and post-baccalaureate students. However, after feedback is shared and grades are received, sophomore attitudes toward their teacher education program are stronger than senior, post-baccalaureate, and junior students.

Table 2

Kruskal-Wallis Test
(Chi Square Approximation)
Level 1=Sophomore; 2=Junior; 3=Senior; 4=Post-Bac

Teach 1	Teach 2
The mean for ANX differs among levels; p=.0009 ANOV Level order: 3>2>1>4 p=.004 KW	No significant difference p=.60 ANOV p=.53 KW
The mean for Lesson differs among levels p=.04 KW	No significant difference p=.81 KW
The mean for Appearance differs among levels p=.04 KW	No significant difference p=.15 KW
The mean for Profession differ s among levels p=.01 KW	No significant difference p=.50 KW

Table 3

Kruskal-Wallis Test
(Chi Square Approximation)
Level 1=Sophomore; 2=Junior; 3=Senior; 4=Post-Bac

Teach 1	Teach 2
The mean for Akron differs among levels p=.03 KW	No significant difference p=.35 KW
The mean for Camera differs among levels p=.02 KW	No significant difference p=.49 KW
The mean for Program differs among levels p=.0001 KW Level order: 3>1>2>4	Significant p=.045 KW Level order: 1>3>4>2

Regarding student attitudes toward grading in general, sophomore and junior secondary education majors participating in the study rated supervisor grading nearly the same on tasks 2 and 3. However, senior and post-baccalaureate students rated supervisor grading slightly less precise on task 3. In addition, students at all levels considered grading to be more precise following the reteach lesson. Overall, post-baccalaureate male students rated supervisor grading to be the most precise.

Discussion

A number of possible explanations may account for the results obtained. Overall lesson videotaping appears to be a motivating factor for aspiring pre-service teachers in addition to an effective behavioral modifier.

Support of videotaping as a motivating factor and behavior modifier is evidenced by male student feelings. Males, who dominated the senior and post-bacculaureate categories, appeared more anxious prior to grading than their female counterparts. These feelings of

anxiety may have motivated male students to deliver their practice lessons more competently. However, after receiving their grade for the lesson male students were more inclined to view their teacher education program less positively. Thus, if males were highly motivated to present a competent lesson, and thereafter disappointed with the results, it is not surprising that they might be more critical of their training program.

However, positive female attitudes toward supervisor grading serves to explain positive female feelings toward their teacher education program. It seems only natural to support a program that helps a person achieve a favorable performance rating.

Finally, sophomore students with less teaching experience and lower anxiety levels regarding grades may be inclined to view their teacher education program more positively when they receive an unexpected high score for their lesson delivery. This negative correlation between class rank and attitude toward teacher education program before supervisor grading and peer review may serve to inspire some "younger" students to continue in their teacher education programs.

The foregoing research results should cause teacher educator institutions to pause and consider whether or not their programs are gender or class biased and to institute safeguards against any possible predispositions. Specifically, professional educators should evaluate lab personnel in an effort to ensure that both male and female supervisors are properly trained to perform their assignments and that these individuals are sensitized to the levels of anxiety that accompany videotaping efforts. Moreover, teacher educators and their agents should be cognizant of the different levels of anxiety that arise toward grading between teach and reteach sessions based on gender and class rank. To avoid confrontation regarding a grade, supervisors should be trained to accurately document the reasons for their scores, to patiently explain the award, and to provide constructive feedback to the student in areas that need improvement.

Summary

This study tested the assumption that supervisor grading adversely effects pre-service teacher attitudes toward themselves, their teaching, and the teaching profession. It was found that there was no significant adverse effect produced by supervisor grading alone on pre-service teacher attitudes. Further research should explore the question of whether the absence of grading by trained supervisors will create "healthy levels" of anxiety and stimulate significant changes in behavior. Is peer review and professor critique sufficient feedback to influence pre-service teacher performance?

The results of this study suggest that demonstrating simple teaching skills such as giving directions for a homework assignment or teaching a lesson using multiple senses in front of a video camera does create a healthy level of anxiety among pre-service teachers. Although this healthy level of anxiety may be financially expensive to maintain for a educational institution, the positive returns, such as behavioral modification and attitudes toward teacher education in general, more than justifies the investment. Seeing and hearing oneself on television in living color seems to have a profound impact on how a pre-service teacher will perform in front of a classroom, how they receive a grade, and how they view their teacher education program.

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Appendix A
Attitude Questionnaire
Microteaching 1989-1990

Demographic Data: (Please indicate the appropriate response.)

Male _____ Female _____

Sophomore ___ Junior ___ Senior ___ Post-Baccalaurate ___

Teach _____ Reteach _____ Task Number _____

Directions: The following questionnaire should be completed by the Principle's student twice during the microteaching session. The student will complete the Attitude Questionnaire: (1) immediately after presenting his/her lesson and before any evaluation (peer or supervisor) occurs; and (2) immediately after the class provides feedback and the supervisor shares the grade for the lesson with the student. Read each phrase and circle the score or number that accurately reflects your attitude. The scales are scored from 1 (most negative) to 7 (most positive).

1. MY LESSON DELIVERY

Unique 1 2 3 4 5 6 7 Commonplace

2. MY CLASSROOM APPEARANCE

Good 1 2 3 4 5 6 7 Bad

3. ME AS VIEWED BY THE STUDENTS DURING THE MICROTEACHING LESSON

Passive 1 2 3 4 5 6 7 Active

4. ME AS VIEWED BY THE SUPERVISOR OF THE LESSON

Emotional 1 2 3 4 5 6 7 Rational

5. ME AS A PROFESSIONAL TEACHER

Flexible 1 2 3 4 5 6 7 Rigid

6. ME AS A UNIVERSITY OF AKRON STUDENT

Free 1 2 3 4 5 6 7 Constrained

7. ME WITH A CAMERA IN THE MICROTEACHING CLASSROOM

Unpleasant 1 2 3 4 5 6 7 Pleasant

8. MY GRADING EXPERIENCE IN MICROTEACHING

Vague 1 2 3 4 5 6 7 Precise

9. MY TEACHER EDUCATION PROGRAM

Strong 1 2 3 4 5 6 7 Weak