REPORT RESUMES

ED 020 575 56 EA 001 374

EXPLORATION OF THE UTILIZATION OF PERSONNEL IN THE SUPERVISION OF STUDENT TEACHERS WHEN FEEDBACK VIA FILMS AND SYSTEMS FOR THE ANALYSIS OF TEACHING ARE INTRODUCED INTO THE STUDENT TEACHING PROGRAM. FINAL REPORT.

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REPORT NUMBER BR-5-1079 PUB DATE 1 AUG 67
GRANT OEG-1-6-051079-0808
EDRS PRICE MF-$0.50 HC-$4.80 118P.

DESCRIPTORS- *COLLEGE SUPERVISORS, STAFF UTILIZATION, *STUDENT TEACHERS, *TEACHER EDUCATION, *FEEDBACK, *AUDIOVISUAL AIDS, TEACHER EVALUATION, TEACHER BEHAVIOR, COOPERATING TEACHERS, ELEMENTARY SCHOOL TEACHERS, SCHOOL VISITATION, MEDIA RESEARCH, PRESERVICE EDUCATION, TELEVISION, TAPE RECORDINGS, FILMS,

AN INTEGRATED FEEDBACK SYSTEM DESIGNED TO ENABLE STUDENT TEACHERS TO ANALYZE THEIR TEACHING, SET GOALS FOR IMPROVEMENT, AND MONITOR THEIR OWN PROGRESS WAS INSTITUTED IN THE TEACHERS COLLEGE, COLUMBIA UNIVERSITY. ELEMENTS OF THE FEEDBACK SYSTEM INCLUDED THE USE OF A SYSTEM FOR BEHAVIORAL ANALYSIS OF TEACHING AND THE USE OF FILMS AND AUDIO AND TELEVISION TAPES OF TEACHING BY THE STUDENT TEACHERS. FACULTY BEHAVIOR AS WELL AS FEEDBACK ROLES OF STUDENTS AND COOPERATING TEACHERS WERE ANALYZED. CONCLUSIONS WITH RESPECT TO STAFF UTILIZATION SUGGEST THAT SUPERVISORS NEED EXTENSIVE TRAINING FOR FEEDBACK ROLES, THAT STUDENTS AND COOPERATING TEACHERS CAN LEAD FEEDBACK SESSIONS WITHOUT NEGATIVE EFFECTS ON CONTENT, THAT THE USE OF A FEEDBACK SYSTEM CAN BEGIN EARLY IN THE TEACHER TRAINING PROGRAM IF IT IS CAREFULLY MONITORED, AND THAT THERE IS A TENDENCY FOR STUDENTS, COOPERATING TEACHERS, AND SUPERVISORS TO DISCUSS HYPOTHETICAL SITUATIONS RATHER THAN THE FILMED OR TAPED TEACHING EPISODES. ANALYSIS OF THE PROGRAM LEADS TO RECOMMENDATIONS THAT (1) INTEGRATED FEEDBACK SYSTEMS INCLUDE PROMINENT FEEDBACK ROLES FOR STUDENTS AND COOPERATING TEACHERS, AND (2) THAT EXPECTATIONS AND ROLES OF FACULTY MEMBERS, COOPERATING TEACHERS, AND STUDENTS BE CAREFULLY DEFINED. (TT)

ED020575

FINAL REPORT 56
Project No. 5-1079
Grant No. OE 1-6-051079-0808

EXPLORATION OF THE UTILIZATION OF PERSONNEL IN THE SUPERVISION OF STUDENT TEACHERS WHEN FEEDBACK VIA FILMS AND SYSTEMS FOR THE ANALYSIS OF TEACHING ARE INTRODUCED INTO THE STUDENT TEACHING PROGRAM

August 1, 1967

U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

EA 001 374

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Project No. 5-1079
Grant No. OE 1-6-051079-0808

Bruce R. Joyce

August 1, 1967

The research reported herein was performed pursuant to a grant with the Office of Education, U. S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

Teachers College
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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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ACKNOWLEDGEMENTS

Mr. Clark Brown and Mrs. Pat Schumock were outstanding research associates throughout the project. They managed all tasks with skill and grace.

Mrs. Beatrice Mittelman developed original programs for analyzing the data and was a valuable source of assistance in the handling of the data. Professor Rosedith Sitgreaves provided valued advice on the statistical design.

The staff, director, and students of the Teacher Education Program in Teachers College, Columbia gave greatly of themselves, especially in exposing themselves to a constant and searching analysis of their activities. Their privacy as teachers and students virtually disappeared during the study.

Mrs. Doris Beebe cheerfully and painstakingly prepared the manuscript.

INTRODUCTION

This investigation involves two types of technology which are presently being experimented with in an effort to improve teacher education. One of these involves the use of films and audio and visual tape recorders to enable novice teachers to examine their teaching behavior and to obtain feedback about their efforts to improve their performance. Several new products have increased the use of this type of technology. The light, transistorized, portable audio tape recorder enables the teacher to have a recorder with him virtually wherever he goes to teach. Television tape recorders encourage the development of settings where teachers can get immediate visual and audimotory feedback. The development of inexpensive sound motion picture cameras has resulted in highly portable audio-visual feedback equipment. Last, the availability of very high speed film has made it possible to take still and motion pictures in classrooms without the disruption caused by the intrusion of intensive light sources.

The second technology has come about through the development of systems for the intellectual analysis of teaching -- systems that can be taught to novice teachers to enable them to analyze their teaching behavior and to set goals for the improvement of their performance. As will be seen presently, several of these analytic systems have been constructed specifically for use in teacher education programs.

The simultaneous application of both technologies -- the new devices for recording behavior for feedback and the schemes for the systematic analysis of teaching -- is now being experimented with in teacher education settings. In several **centers** research is now being undertaken to determine the effectiveness of these technologies for the improvement of teacher training. It appears very likely that teacher education programs of the future will include components that involve these two technologies, combined to permit the novice teacher to analyze his behavior, set goals for the improvement of his performance, and to obtain feedback on his progress toward his new goals. These components can be referred to as integrated feedback systems.

As integrated feedback systems come into being, they will be accompanied by changes in the roles to be played by instructional personnel in the teacher education program. The nature of these roles is yet to be determined.

The roles that will emerge will depend partly on the capability of the persons involved in teacher training, partly on the types of training that they are given and partly on the requirements of the feedback components that are developed.

It is on this problem of staff utilization in teacher education that the present investigation is focussed. It seeks to examine how college instructors, cooperating teachers, and student teachers behave when integrated feedback systems are introduced into the teacher education program. The results of the investigation will be interpreted in terms of recommendations for the developing roles of teacher education personnel and guidelines for the retraining of teacher education personnel when integrated feedback systems are constructed.

Background of the Problem

The problem has its origin in the attempts to develop for teacher education new components that combine the potential in film, audio, and television tape feedback with strategies for analyzing teacher behavior systematically. For example, Allen and MacDonald (7) have developed and studied a process named "Micro-teaching". In this process the novice teacher teaches small groups of children while concentrating on the perfection of one teaching maneuver at a time. Immediately after teaching, he receives a television feedback and coaching. In successive practice sessions, he polishes his new teaching maneuver.

Gold, Schueler, and their associates (8) have combined television tape feedback with the use of the analytic system developed by Medley and Mitzel (6).

Joyce and Hodges have developed a system of feedback and analysis called Instructional Flexibility Training (5). In their system, student teachers are taught an analytical scheme, the Conceptual Systems scheme, and taught to apply it to the analysis of their teaching. The goal is to induce the novice teacher to expand his repertoire of available teaching maneuvers, as outlined in Joyce and Harootunian (4) and to assist their fellow student teachers to expand their arsenals of teaching maneuvers.

Probably the most extensive work has been done by Flanders, Amidon, and their associates (1) who have developed an analytic system called "interaction analysis" which is taught to the teacher so that he can provide himself with feedback about his teaching performance. In several investigations, evidence has been accumulated that indicates that novice teachers who employ interaction analysis tend to become more indirect and flexible in their teaching methods than student teachers who are not exposed to the method.

Work has progressed to the point where it is desirable to examine how teacher education personnel should be deployed in integrated feedback systems. Specifically, it is important to learn how college teacher education personnel behave when integrated feedback systems are introduced into the teacher education program. Do they find the feedback systems useful for some purposes and not for others? Do feedback systems duplicate or replace other supervisory systems? What kinds of difficulties are encountered in implementing feedback components? What new roles do they generate that require training for supervisory personnel?

Also, since both the media feedback and the analytic systems provide student teachers with the equipment for tracking and assessing their own behavior, new roles for students are likely to be possible in the teacher education program. It is desirable to begin to explore what these new roles might be.

Ultimately it should be possible, after adequate staff utilization studies, to design integrated feedback systems that utilize media, analytic systems, and personnel, including student personnel, in a coordinated fashion.

The research herein described has been designed to begin to explore the deployment of personnel when integrated feedback systems are used in teacher education.

During the Fall of 1966, an integrated feedback system was introduced into the pre-service teacher education program at Teachers College, Columbia University. It was included in the curriculum for thirty students who were preparing to be elementary school teachers. These thirty students were supervised, in their student teaching, by three supervisors, each of whom was assigned to ten students. The supervisors were themselves doctoral students in curriculum and teaching at Teachers College.

Student teaching, in the pre-service program at Teachers College, occurred during 1966-67 in two segments. The first segment consisted of experience in public school classrooms about two days each week for the Fall semester. The second segment consisted of four days each week for about twelve weeks of the Spring Semester. During the first semester, each student was assigned to several cooperating teachers for about four weeks each, in order to give him contact with several age groups and subject areas. During the second semester the students were assigned to one or two cooperating teachers unless there were special circumstances that resulted in his being shifted more often during the semester.

Normally, each student was visited once each week by his supervisor. In addition, each student was scheduled for a private conference once each week (with the supervisor). Also, each of the groups of ten student teachers met once each week with the supervisor in a seminar.

Into this setting, which had been a well established routine for several years, was introduced the means for carrying on an integrated feedback system. Enough light, portable audio tape recorders were procured so that each pair of student teachers had one available for their use. A large supply of audio tape was procured and made available to them. Each student teacher was required to make a weekly tape of his teaching, so that tapes were always available for analysis if students or supervisors desired to make use of them.

A cameraman was also employed to make motion pictures and time-lapse thirty-five millimeter strip films of teaching.

This cameraman worked regular hours each week, and it was possible for student teachers to schedule him to film their teaching, or for a supervisor to schedule him to film a student whose teaching they wished to analyze.

A television tape recorder and operator were made available to the program for several days and children were available to serve as pupils within the television setting. Each student in the program was televised twice, despite the time limitations on the use of these media. There were few limitations, however, on the number of times a student could be taped or filmed either with a motion picture or time-lapse still camera.

Each supervisor was provided with an audio tape recorder and was able to schedule eight millimeter sound projectors and thirty-five millimeter strip film projectors as he needed them. In addition, the supervisors were able to schedule the television tape devices for their seminars when they needed that equipment.

None of the supervisors had been previously trained to use any of the systems for analyzing teaching behavior. (See Bellack, (2) or Medley and Mitzel, (6) for an overview of many of the systems that are in use today.) A special seminar was instituted under the direction of the principal investigator. The purpose of this seminar was to provide help to the supervisors -- help in the use of feedback systems with student teachers. The principal investigator, after outlining the feedback system, tried to limit help given to the supervisors so that they received aid only when they asked for it.

By limiting training it was hoped that the roles the supervisors would play in the feedback system would be ones they would "naturally" develop. If the feedback system were tightly spelled out and if rigorous training had been given to the supervisors, then it would not have been as possible to observe naturalistic staff utilization patterns. Therefore, the feedback system was described to the supervisors as follows:

1. All students were to learn a system for the behavioral analysis of teaching.

2. All students were to make a weekly tape recording of a lesson they taught, were expected to analyze the lesson and to be prepared to use it in conferences and seminars with their supervisors.

3. Students, in consultation with supervisors were to schedule filming and video-taping of their teaching.

4. Supervisors and students were to have weekly

conferences in which supervisors were to assist students to analyze their teaching, set goals for improving their teaching, and learn to judge their progress, using the behavioral analysis technique.

5. In weekly seminars, supervisors would help groups of students analyze teaching and set group and individual goals for the expansion of their repertoire of teaching maneuvers and to develop strategies for coping with common problems in teaching.

Initiating the Program

The supervisors and the student teachers were given copies of the Manual for Coding the Verbal Behavior of Teachers which is Appendix B of Joyce and Harootunian (4). The principal investigator conducted several sessions in which students and supervisors were together instructed in the use of the manual to analyze teaching and set goals for the improvement of teaching performance. Tapes and films were used in these sessions.

Following these initial sessions, the student teaching program proceeded with its normal schedule, except that in conferences and seminars films, tapes, and the analysis of teaching were to be used as the strategy of supervision.

Several cooperating teachers were identified and joined to the seminars of each supervisor. During the second semester these cooperating teachers from the New York City public schools took over the leadership of several of the seminar sessions in order to provide an opportunity to study their behavior in the roles of seminar leader. Several of the seminars in the first semester were led by students in order to provide the opportunity of studying their behavior in the leadership roles.

Questions to Answer

The central question that guided the design of the study was "When television tape, filming, and the analysis of teaching are introduced into the student teaching program, (in an integrated feedback system) what changes should be made in the utilization of supervisors of student teaching?"

The strategy of the study was developed around four specific questions:

1. The first question deals with the amount of instruction in feedback techniques that is needed before the system begins to function for the student teacher. The question was phrased:

"How much large group instruction in the analysis of teaching is required before trainees employ the system of analysis in the analysis of their own teaching?"

The general method employed to answer this question was to analyze the content of conferences between students and supervisors to determine the stages at which the systems began to be used and the kinds of use to which they were put.

2. The second question deals with the ability of student teachers to fulfill feedback roles.

"Can teacher trainees, independent of faculty, carry on the feedback and analysis session?"

This question was explored by instituting student leadership for seminars and comparing the content of those seminars with faculty-led seminars.

3. The third question deals with the ability of cooperating teachers to assume important roles in the feedback process.

"To what extent can cooperating teachers from the public schools substitute for college faculty in providing feedback to student teachers?"

The general method for exploring this question was to involve several cooperating teachers from the public schools in the seminars, where they substituted for college faculty several times. The content of the cooperating teacher-led seminars was compared with the content of the faculty-led seminars.

4. The fourth question deals with the amount of on the spot supervision of student teachers which is needed in addition to the supervision provided through the feedback system.

"How much "live" classroom visitation of student teachers is required in addition to the analysis and feedback sessions (conferences and seminars) around which supervision was organized?"

The general method for this question was to vary amounts of live supervision and examine the effects on the content of conferences, on the student-initiated demand for supervision, and on student and faculty judgment about the adequacy of supervision for each student. The chart which follows, "Strategy of Staff-Utilization Study," summarizes the questions, general methods, and potential yield of the study.

Strategy of Staff Utilization Study

	Question	Method	Potential Yield
1.	What amount of instruction is needed before system is employed by students?	Analysis of the content of conferences as reported by faculty and students.	Specification of optimal amount of direct instruction before independence.
2.	Can students fulfill feedback roles for each other?	Students lead some seminars. Compare content of student and faculty-led seminars.	Knowledge of tasks involved in developing student roles.
3.	Can cooperating teachers fulfill feedback roles?	Cooperating teachers lead some seminars. Compare content with faculty-led seminars.	Knowledge of tasks involved in developing roles for cooperating teachers.
4.	How much supervision is needed in addition to feedback system?	Vary amounts of classroom supervision and observe effects on content of seminars and satisfaction with supervision.	First step toward development of optimal supervision patterns.

Method

The general method was to institute filming and taping of student teachers, to teach supervisors and student teachers to use a category system for analyzing teaching behavior, and to observe the behavior of the supervisors and student teachers in the conferences and seminars that were to serve for feedback sessions (sessions in which the student teachers would analyze their teaching, set goals for improvement, and learn to give themselves feedback on their progress.)

The focus of the investigation was the feedback sessions -- both the conferences that supervisors had on a weekly basis with each student teacher, and the seminars that each supervisor held on a weekly basis with his group of ten student teachers.

The methods of the study varied somewhat in order to obtain data pertinent to each of the four questions that guided the investigation.

Method for the First Question.

"How much instruction in the analysis of teaching is required before trainees employ the systems of analysis in the analysis of their own teaching?"

In the beginning of the Fall Semester, at the beginning of the teacher education program but before student teaching had begun, the principal investigator held four two-hour lecture-demonstrations in which he taught trainees and supervisors how to employ the "Manual for Coding the Verbal Behavior of Teachers" and how to employ tapes, films, and the behavioral analysis so as to set goals and monitor progress. (See Joyce and Hodges (5) for a complete overview of the procedures.) Then, as the student teaching period began, in the middle of October, tape recorders and tapes were issued to the student teachers, who were instructed to bring a tape recording of one of their lessons to their weekly conference with their supervisor, so that it would be available for feedback use. In addition, a cameraman, with equipment for sound motion pictures and thirty-five millimeter time-lapse photography, was put on a schedule that made him available to the student teachers provided that they scheduled themselves for his services.

The supervisors agreed to build their seminars and conferences around the tapes and films--to continue to teach the student teachers how to use the "Manual" to analyze their teaching.

After each conference, each supervisor and each student filled out a questionnaire that was constructed to obtain their opinion about the questions and issues that were discussed and the extent to which the tapes, films, and "Manual" were utilized in the conference.

The questionaires were entitled the "Log of Supervisory Conferences -- Supervisors" and the "Log of Supervisory Conferences -- Student Teachers," respectively. In addition to these two forms, the supervisor completed, after each conference, a special questionnaire entitled the "Language of Analysis in Conferences" which was constructed to obtain more specific information about the student's comfort and skill in using the language of the "Manual" in the conference sessions.

These questionnaires permitted a description to be made of the issues and problems that made up the content of the conferences throughout the year from the point of view of the supervisors and the student teachers. They also permitted a comparison of the judgments of the supervisors and the students regarding the use of the feedback system to which they were being exposed, as well as the supervisors' judgment about the competence of the student to use the system to set goals and monitor his progress.

Method Used for Question Two.

"Can teacher trainees, independent of faculty, carry on the feedback and analysis sessions?"

In order to test this hypothesis, the supervisors were instructed to arrange to absent themselves for not less than four seminars during the first semester, turning the leadership of the seminar over to the students.

All of the seminars were tape-recorded, both those lead by the supervisors and those lead by the student teachers. These tape recordings were then submitted to a content analysis of the verbal interaction of the seminars in order to determine the use of the feedback system to approach the content of the seminars. In this way it was possible to compare the content and use of the feedback system in supervisor and student-led seminars.

In addition to this, all students completed a questionnaire, (the "Questionnaire on Seminars") at the end of the semester. This questionnaire was designed to obtain the opinion of the students about the differences between the seminars that they conducted and those that were conducted by the faculty supervisors.

Method of the Third Question.

The third question was investigated during the second, or Spring semester:

"To what extent can cooperating teachers from the public schools substitute for faculty in providing feedback to student teachers?"

The methods used to obtain data relevant to this question were essentially the same as those used with respect to the second question, except that cooperating teachers were the focus. Cooperating teachers from the schools in which the student teachers carried out their student teaching were identified and agreed to participate in the seminars in which feedback was given. After several seminars, the cooperating teachers began to give leadership to sessions from which the supervisors absented themselves. Again, all of the seminars were tape-recorded and once again they were submitted to a content analysis. This analysis enabled a determination to be made of any similarities and differences between the content and use of the feedback system when supervisors or cooperating teachers were the leaders.

Also, at the end of the semester, a questionnaire was administered to the student teachers asking them to give their opinion about the differences between the seminars that were led by cooperating teachers and those that were led by the faculty supervisors.

The Method of the Fourth Question:

"How much "live" classroom visitation of student teachers is required in addition to the analysis and feedback sessions around which the supervision was organized?"

Because the feedback system theoretically provides the student teachers with a method which they can use to assess and improve their own teaching, and because it makes it possible for supervisors and student teachers to analyze tape recorded and filmed samples of teaching, it is possible that it may reduce the amount of time that supervisors need to spend in the classroom with the student teaching. In the eventual construction of feedback systems that utilize personnell optimally, it should be possible to have cooperating teachers to perform certain functions, student teachers themselves can perform others, and the supervisors role may change substantially from what it has been.

The present investigation approached this question rather tentatively and indirectly by reducing the amount of "live" classroom visitation that half of the students received and observing the effects of the reduction in direct supervision on the remainder of the supervisory process.

Half of the students were visited by their supervisors in their classrooms once each week, which is the normal supervision provided in the Teachers College, Columbia, student teaching program. The remainder of the students were visited half as often. To control for differences in the personal style of the supervisors, each supervisor visited half of his teachers each week and half of them every other week.

An analysis of the Logs of Supervisor Sessions was performed to determine whether the content of conferences varied with the amount of live supervision received.

The end of semester questionnaires were similarly analyzed to see if differences existed between the group receiving the varying amounts of supervision.

In addition, the students in each group filled out what were called "Monthly Questionnaires to Determine Supervisory Adequacy" in which they rendered their opinions about the substance of the supervision they were receiving.

To provide an objective measure of whether the students felt that their supervisors were providing them with sufficient help, the supervisors were provided with a form called an "On'Call" Report. They were instructed to complete one of these forms whenever a student requested an unscheduled discussion of teaching with them. The "on call" report asked for a description of the content of the

Form C-2
Student's Form

MONTHLY QUESTIONNAIRE FOR SUPERVISORY ADEQUACY

Name of Supervisor__________________ Date______________

Name of Student__________________________ __________

A. How many times have you been visited this past month? __________

B. In what ways has your student teaching experience made you a stronger person or teacher? Explain where necessary.

1. General growth and maturity 0 1 2 3 4 5
2. Better rapport with the children 0 1 2 3 4 5
3. Better rapport with your cooperating teacher 0 1 2 3 4 5
4. More varied approaches to teaching 0 1 2 3 4 5
5. Greater ease and confidence in the classroom 0 1 2 3 4 5
6. Greater sense of purpose 0 1 2 3 4 5

C. In what areas have you had the most difficulty? 0 1 2 3 4 5

7. Rapport with your cooperating teacher 0 1 2 3 4 5
8. Rapport with children or discipline 0 1 2 3 4 5
9. Classroom procedures and organization 0 1 2 3 4 5
10. Teaching techniques 0 1 2 3 4 5
11. Your own personal or emotional problems 0 1 2 3 4 5

D. Do you feel you have had adequate supervision this month? Too much? Too little? Explain if necessary.

E. Have the seminars helped your student teaching experience? Explain.

F. Has taping and filming helped or hindered your teaching experience? Explain.

Form C-1
Supervisor's Form

MONTHLY QUESTIONNAIRE FOR SUPERVISORY ADEQUACY

Name of Supervisor____________________Date__________

Name of Students__________________________________

A. How many times have you visited these students this past month? ________

B. In what ways has her student teaching experience made her a stronger person or teacher? Explain where necessary.

1. General growth and maturity 0 1 2 3 4 5
2. Better rapport with the children 0 1 2 3 4 5
3. Better rapport with her cooperating teacher 0 1 2 3 4 5
4. More varied approaches to teaching 0 1 2 3 4 5
5. Greater ease and confidence in the classroom 0 1 2 3 4 5
6. Greater sense of purpose 0 1 2 3 4 5

C. In what areas has she had the most difficulty?

7. Rapport with her cooperating teacher 0 1 2 3 4 5
8. Rapport with children or discipline 0 1 2 3 4 5
9. Classroom procedures and organization 0 1 2 3 4 5
10. Teaching techniques 0 1 2 3 4 5
11. Her own personal or emotional problems 0 1 2 3 4 5

D. Do you feel that this student has had adequate supervision this month? Too much? Too little? Explain if necessary.

Form A

"ON-CALL" REPORTS BY COLLEGE SUPERVISORS

Name of Supervisor________________________________

Name of Student____________________ Date__________

Approximate length of time of session__________________

A. Checklist of topics covered during the session. (Note where emphasis was heavy and where light.)

1.	Classroom procedures	0 1 2 3 4 5
2.	Discipline	0 1 2 3 4 5
3.	Teaching techniques	0 1 2 3 4 5
4.	New activities proposed and/or planned	0 1 2 3 4 5
5.	Existing activities developed or modified	0 1 2 3 4 5
6.	Specific children--progress and/or problems	0 1 2 3 4 5
7.	Community affairs as they affect the school	0 1 2 3 4 5
8.	The Student's effectiveness in the classroom	0 1 2 3 4 5
9.	Ways of making her graduate work more meaningful in the classroom situation	0 1 2 3 4 5
10.	Personal or emotional problems	0 1 2 3 4 5

B. Was the initiative during the session taken by the supervisor, the student, or both of you?

discussion and a judgment about whether the students were having special problems of any kind. It was thought that students who were not receiving sufficient help with their problems might request more extra conferences than those who felt that their progress was satisfactory. Tabulation of the "on call" reports would make it possible to determine whether students receiving less classroom supervision reacted by asking for more contact with their supervisors.

In addition to the above, some informal observations were made by the principal investigator and the research staff because of their close proximity to the feedback process. From time to time as the results are presented, these informal observations will be made. For, although they belong in the category of "soft" data, they yielded information about several important aspects of staff utilization which were not included in the formal research design.

Results

The results of the investigation will be presented in four sections. Each section will present the results as they pertain to one of the four questions around which the investigation was organized.

The First Question:

"How much large group instruction in feedback and analysis is required before the teacher trainees employ the feedback system in the analysis of their own teaching?"

The investigation was designed to yield evidence concerning two interrelated aspects of student use of the analytic techniques; their actual use of the system and their comfort with its use. Questionnaires were, as described earlier, administered after each conference and monthly to solicit the opinions of both the students and their supervisors about the content of the conferences and their use of and comfort with the feedback system. These questionnaires were tabulated monthly, which permitted a running account of those opinions, so we are able to make some judgment about the point during the year when the students and their supervisors began to use the system extensively and comfortably.

After the initial presentation of the feedback system by the principal investigator, each supervisor devoted at least a part of each of the weekly seminars to the use of the feedback system. (In weekly sessions with the supervisors, the principal investigator carried on a parallel program of the instruction for the benefit of their competence, as described above.) The task of this section of the report is to examine the data which were collected to see at what point in this course of instruction the students began to use the system comfortably and effectively.

Content of Supervisory Conferences

The "Log of Supervisory Conferences: Student Teachers" and the "Log of Supervisory Conferences: Supervisors" were used to maintain a running account of the content of the seminars. The two questionnaires included nine common items which were answered on a scale and could be tabulated objectively. The questionnairs are presented on pages 29 and 30.

Table One contains the means and standard deviations for the student teacher form of the Log of Supervisory Conferences for six months of the study. These were the six months when the students were actually in the classroom

LOG OF SUPERVISORY CONFERENCE -- Student Teachers

Name of Student________________________Date____________

Name of Supervisor__________________________________

Approximate length of time of session_____________________

A. Checklist of topics covered during the session (Note where emphasis was heavy and where light)

1.	Classroom procedures	0 1 2 3 4 5
2.	Discipline	0 1 2 3 4 5
3.	Teaching techniques	0 1 2 3 4 5
4.	New activities proposed and/or planned	0 1 2 3 4 5
5.	Existing activities developed or modified	0 1 2 3 4 5
6.	Specific children--progress and/or problems	0 1 2 3 4 5
7.	Community affairs as they affect the school	0 1 2 3 4 5
8.	Your effectiveness in the classroom	0 1 2 3 4 5
9.	Ways of making your graduate work more meaningful in the classroom situation	0 1 2 3 4 5
10.	Personal or emotional problems	0 1 2 3 4 5

B. Seminars

Have the seminars been related to your student teaching?

Can you give an example of how they are related? Or a reason why they are not?

C. Filming and Taping

1. Has the practice of filming and taping lessons been related to the teaching experience you have been having? If so, how? If not, why not?

Form B-4

LOG OF SUPERVISORY CONFERENCES -- Supervisors

Name of Student ______________________ Date ____________

Name of Supervisor ______________________________

Approximate length of time of session ______________________

A. Checklist of topics covered during the session (Note where emphasis was heavy and where light)

1. Classroom procedures 0 1 2 3 4 5
2. Discipline 0 1 2 3 4 5
3. Teaching techniques 0 1 2 3 4 5
4. New activities proposed and/or planned 0 1 2 3 4 5
5. Existing activities developed or modified 0 1 2 3 4 5
6. Specific children--progress and/or problems 0 1 2 3 4 5
7. Community affairs as they affect the school 0 1 2 3 4 5
8. The student's general effectiveness in the classroom 0 1 2 3 4 5
9. Ways of making graduate work more meaningful in the classroom situation 0 1 2 3 4 5
10. Personal or emotional problems 0 1 2 3 4 5

B. Was the initiative during the session taken by the supervisor, the student, or both of you?

C. Can you give an example of a suggestion you were able to make that will help the student in the classroom?

D. Were seminars, taping, or filming of lessons useful in this conference? How? If not, why not?

Table One
Means and Standard Deviations for the Log of Supervisory Conferences: Student Teachers Form by Month for Six Months

Item	Month					
	October	November	December	February	March	April
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
1. Classroom procedures	2.70 (1.600)	2.37 (1.953)	2.79 (1.739)	3.33 (1.446)	3.06 (1.486)	3.13 (1.505)
2. Discipline	2.60 (1.673)	2.13 (1.641)	2.42 (1.970)	2.75 (1.785)	2.83 (1.577)	2.56 (1.633)
3. Teaching Technique	3.40 (1.476)	3.60 (1.452)	3.63 (1.542)	3.96 (1.033)	3.90 (.994)	3.73 (1.112)
4. New activities proposed and/or planned	1.93 (1.659)	1.86 (1.922)	1.57 (1.525)	2.81 (1.776)	1.96 (1.741)	2.03 (1.650)
5. Existing activities developed or modified	2.00 (1.485)	2.34 (1.987)	2.00 (1.732)	2.77 (1.476)	1.96 (1.679)	2.66 (1.268)
6. Specific children--progress and/or problems	2.23 (1.887)	1.86 (2.012)	2.43 (1.887)	1.46 (1.261)	1.26 (1.387)	1.37 (1.399)
7. Community affairs as they affect the school	.68 (1.339)	.50 (1.306)	.83 (1.703)	.58 (1.296)	.36 (1.033)	.20 (.675)
8. The student's general effectiveness in the classroom	2.16 (1.641)	3.16 (1.464)	3.13 (1.431)	3.58 (1.296)	3.75 (1.327)	3.86 (1.279)
9. Ways of making graduate work more meaningful in the classroom situation	.93 (1.337)	.89 (1.448)	1.06 (1.617)	1.03 (1.477)	1.13 (1.613)	1.30 (1.764)

as observers or participants. For the first semester, they represent October, November, and December, whereas for the second semester they represent February, March, and April. During that period, it may be remembered, student teachers were instructed to make a tape recording of a lesson each week, and in addition they were to schedule the cameraman to film them or make a time-lapse sequence of their teaching. These tapes and films were available for the conferences, should the student or supervisor decide to use them, but the use was not required of either of the parties beyond the expectation that over a period of time each student was to have a healthy involvement with the feedback system.

From Table One it can be seen that the standard deviations for all questions were relatively homogeneous and were also stable over the six month period. Only in the case of question seven was there any appreciable change in the standard deviation, and that was a decline that accompanied a mean that diminished nearly to the vanishing point.

Topic number three, teaching techniques, received, as might be expected, the greatest attention in the conferences, according to the students. Its mean was the highest during the first month and it remained relatively high throughout the year. Classroom procedures, effectiveness in the classroom, and discipline were the other most frequently-occurring topics, with effectiveness in the classroom showing steady increase through the year and being highest at the end (not unexpectedly, since that is when the evaluation of effectiveness was made formally).

Community affairs and ways of making graduate work meaningful in the classroom were the least discussed topics. The low position of community affairs is interesting because nearly all of the student teachers were middle class girls who were teaching in inner city schools for the first time. The schools in which they were teaching were the scene of much community unrest during the year and were, in some cases, among the most-publicized cases in which parents demanded a greater voice in school affairs. It is interesting that the seminars became the center for much discussion of school-society relationships, whereas the conferences, devoted to the teaching of individual students, did not.

Tables Two and Three show the intercorrelations of the nine items for the second and sixth months of the year. Topics three, four, and five were positively correlated, with topics four and five being especially highly related.

Table Two
Intercorrelations of Items
Log of Supervisory Conferences: Student Teacher's Form
Second Month (November)

Item	1	2	3	4	5	6	7	8	9
1. Classroom procedures	-----								
2. Discipline	.272	-----							
3. Teaching Techniques	.361	-.125	-----						
4. New Activities proposed and/ or planned	.280	-.005	.396	-----					
5. Existing activities developed or modified	.379	-.058	.546	.667	-----				
6. Specific children--progress and/or problems	-.243	-.238	.158	.002	.350	-----			
7. Community affairs as they affect the school	.045	.028	-.090	.121	-.012	-.052	-----		
8. Your effectiveness in the classroom	-.011	.106	.048	.445	.027	-.074	.081	-----	
9. Ways of making your graduate work more meaningful in the classroom situation	-.074	.350	-.547	.161	-.158	-.288	.182	.230	-----

Table Three
Intercorrelations of Items
Log of Supervisory Conferences: Student Teacher's Form
Sixth Month (May)

Item	1	2	3	4	5	6	7	8	9
1. Classroom procedures	-----								
2. Discipline	.127	-----							
3. Teaching Techniques	.408	-.164	-----						
4. New Activities proposed and/ or planned	.195	-.136	.463	-----					
5. Existing activities developed or modified	.295	.238	.333	.719	-----				
6. Specific children--progress and/or problems	.194	.115	.294	.221	.094	-----			
7. Community affairs as they affect the school	-.108	.144	.103	.124	-.113	.434	-----		
8. Your effectiveness in the classroom	.389	.347	.246	.241	.403	.437	-.034	-----	
9. Ways of making your graduate work more meaningful in the classroom situation	.172	.158	-.077	-.293	-.025	-.155	-.175	.317	-----

Apparently most of the planning that went on involved the modification of teaching techniques, and when teaching techniques were discussed, it was in the context of making or modifying plans. Topics four and eight were also moderately correlated, indicating that discussion of the student's effectiveness was associated with the development of new activities, no doubt to improve his effectiveness. In the second month, the discussion of teaching techniques was negatively correlated with the discussion of ways of making the graduate work more effective in the classroom. Apparently either the graduate study was not related to teaching techniques or was not seen as such. The correlation had disappeared by the sixth month, however. It is interesting to note that by the sixth month items six, seven, and eight are moderately correlated, indicating that there were times when teaching effectiveness, specific children, and community affiars were discussed together. Considering the low frequency of discussions of community affairs, this cluster is interesting. It may be that occasions when students were having trouble with inner city children and neighborhood problems occasioned the association of topics.

Since the conferences were ostensibly built around the analysis of tapes and films made of the teaching of the student, it seemed pointless to ask whether those techniques were employed. However, item "D" in the logs read: "Has the practice of filming and taping lessons been related to the teaching experience you have been having? If so, how? If not, why not?"

The general "yesses" were disregarded, and the responses were content-analyzed to determine whether the examples given supported "yes" and "no" or "no opportunity" responses. Table Four gives the result of that content analysis, which was done by two observers, working independently (at an agreement level of better than 90%). From Table Four it can be seen that the use of the analysis was at a low level during the first month (the students reported that they did almost no teaching during that month) and then went to a level of 75% to 80% for the remainder of the semester. It is interesting that right through the semester about a quarter of the students claimed that the language of analysis could not be used because they had no opportunity to relate it to their teaching. Since they were in classrooms and they were teaching, the answer to that situation has to be found somewhere other than lack of opportunity. It really means that for one reason or another, they did not

Table Four
Content Analysis of Item E
Log of Supervisory Conferences: Student's Forms
For Four Months

Response	Month			
	October	November	December	January
Yes	20%	75%	80%	80%
No Opportunity	70%	10%	10%	10%

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find the analysis useful or were not shown how it could be useful.

The Content of the Conferences -- The View of the Supervisor

The Log of Supervisory Conferences -- Supervisor's Form dealt with very similar content as the student teacher's form. The bulk of the Log was the nine-item checklist indicating the extent to which the same nine topics were dealt with during the conferences. Table Five indicates the responses the supervisors gave each month in terms of means and standard deviations.

As in the case of the students' form, the standard deviations are relatively uniform except in the case of topic eight, where the rising mean is accompanied by a decline in the variability.

Topic three (teaching techniques) again was prominent from first to last, with topic eight (teaching effectiveness) rising to become the most prominent topic. Topics seven (Community affairs) and nine (making the graduate work meaningful) were least prominent. Topic six (specific children) declined as a topic in the view of the supervisor.

As in the case of the student's form, item intercorrelations were performed to determine the topics that were

Table Five
Means and Standard Deviations of the
Log of Supervisory Conferences: Supervisor's Form
By Month For Six Months

Item	Month First Mean (SD)	 Second Mean (SD)	 Third Mean (SD)	 Fourth Mean (SD)	 Fifth Mean (SD)	 Sixth Mean (SD)
1. Classroom procedures	2.90 (1.446)	2.00 (1.508)	2.96 (1.496)	2.96 (1.499)	3.30 (1.290)	3.06 (1.659)
2. Discipline	2.83 (1.555)	2.10 (1.709)	2.56 (1.612)	2.73 (1.552)	3.06 (1.595)	2.76 (1.832)
3. Teaching Technique	3.30 (1.512)	3.73 (1.257)	3.56 (.858)	4.23 (.858)	3.60 (1.101)	3.76 (1.072)
4. New activities proposed and/ or planned	2.03 (1.473)	2.56 (1.454)	1.16 (1.234)	2.40 (1.191)	2.00 (1.389)	2.46 (1.479)
5. Existing activities developed or modified	2.73 (1.659)	2.66 (1.787)	1.93 (1.529)	2.86 (1.195)	2.40 (1.452)	2.63 (1.449)
6. Specific children--progress and/or problems	2.20 (1.788)	1.83 (1.599)	2.06 (1.284)	1.80 (1.374)	1.80 (1.423)	1.63 (1.351)
7. Community affairs as they affect the school	.56 (1.4)	.3 (.730)	.46 (1.105)	.63 (1.325)	.40 (1.101)	.63 (1.351)
8. The student's general effectiveness in the classroom	2.36 (1.496)	3.36 (1.351)	3.76 (1.040)	4.23 (.971)	4.30 (.749)	4.23 (.773)
9. Ways of making graduate work more meaningful in the classroom situation	.55 (1.325)	.51 (1.454)	.39 (1.314)	.34 (.813	.70 (1.290)	1.10 (1.697)

associated with one another or subsumed in one another. Again, the intercorrelations were made for the second and the sixth month, and the resulting matrices are presented in Tables Six and Seven.

Topic eight (community) is not associated, during either month with any other topic except discipline, and these are positively correlated in both months. Apparently when discipline was discussed, the character of the inner city neighborhood tended to be associated with it, in the view of the supervisors. Topics four, five, and six again were something of a cluster, but the most high correlation is between teaching techniques and developing or modifying existing activities during the second month. Classroom procedures (topic one) and discipline tended to be discussed together, and the only topic that was positively correlated with teaching effectiveness was discipline, but the correlation was not high. However, the same pattern prevailed both months -- that discipline was correlated positively with discussion of effectiveness.

Hence, in the view of the supervisors, the same general order of topics was seen to occur, as seen by the students, but the patterns of association were somewhat different; especially as the supervisors tended to believe that

Table Six
Intercorrelations of Items
Log of Supervisory Conferences: Supervisor's Form
Second Month (November)

Item	1	2	3	4	5	6	7	8	9
1. Classroom procedures	-----								
2. Discipline	.441	-----							
3. Teaching Techniques	-.090	-.115	-----						
4. New Activities proposed and/ or planned	-.267	-.217	.179	-----					
5. Existing activities developed or modified	.076	-.259	.680	.512	-----				
6. Specific children--progress and/or problems	-.157	-.094	.217	.219	.305	-----			
7. Community affairs as they affect the school	0.000	-.011	-.260	-.073	-.281	.255	-----		
8. The student's general effectiveness in the classroom	.202	.341	-.143	-.126	-.033	.061	.228	-----	
9. Ways of making graduate work more meaningful in the classroom situation	.026	-.059	-.258	.261	.016	-.242	-.068	.208	-----

Table Seven
Intercorrelations of Items
Log of Supervisory Conferences: Supervisor's Form
Sixth Month (May)

Item	1	2	3	4	5	6	7	8	9
1. Classroom procedures	-----								
2. Discipline	.107	-----							
3. Teaching Techniques	.257	-.180	-----						
4. New Activities proposed and/or planned	.384	.077	-.067	-----					
5. Existing activities developed or modified	.614	-.011	.318	.358	-----				
6. Specific children--progress and/or problems	.559	-.084	.254	.278	.523	-----			
7. Community affairs as they affect the school	-.111	.043	.164	.090	-.060	.404	-----		
8. The student's general effectiveness in the classroom	-.131	.357	-.058	-.165	-.082	-.038	-.150	-----	
9. Ways of making graduate work more meaningful in the classroom situation	-.026	-.023	-.305	0.000	.231	-.127	-.203	-.046	-----

discipline and effectiveness were discussed together.

As in the case of the student's form of the log, the supervisor's form included an item that approached the usefulness of the feedback system. This item, Item "D", asked the supervisor to judge the usefulness of the Feedback System in the conference. Table Eight presents the results of the content analysis of the item for the period of October through January.

The results generally are parallel with the results of the similar item in the student's form, although there is a drop during the month of December. Also, apparently, if a student had a serious problem or showed much emotionality during the conference, the supervisor tended to avoid the use of the feedback system. This is a natural reaction, but one that needs some examination. Properly employed, one of the advantages of the feedback techniques should be that they compel attention to reality, which can provide handles for coping with emotionality on a healthy basis. This type of problem was not, of course, the subject of this study, but it needs attention.

The Students and the Supervisors' Views Compared

Tables Nine and Ten present a comparison of the means

Table Eight
Analysis of Item D
"Usefulness of Feedback System in this Conference"
Log of Supervisory Conferences: Supervisor's Form
For Four Months

Response	Month			
	October	November	December	January
Yes, Applicable to Conference Content	3%	83%	57%	90%
Not Applicable to Conference Content	97%	8%	33%	---
Not used because of emotional or other difficulty	---	9%	10%	10%

Table Nine
Comparison of Item Means and Standard Deviation for Students' and Supervisors' Forms of the Log of Supervisory Conferences
Second Month (November)

Item	Student's Form		Supervisor's Form	
	Mean	S.D.	Mean	S.D.
1. Classroom procedures	2.379	1.953	2.000	1.535
2. Discipline	2.137	1.641	2.103	1.739
3. Teaching Techniques	3.600	1.452	3.733	1.257
4. New Activities proposed and/or planned	1.862	1.922	2.586	1.476
5. Existing activities developed or modified	2.344	1.987	2.758	1.745
6. Specific children--progress and/or problems	1.866	2.012	1.833	1.599
7. Community affairs as they affect the school	.500	1.306	.133	.730
8. The student's general effectiveness in the classroom	3.166	1.464	3.366	1.351
9. Ways of making graduate work more meaningful in the classroom situation	.925	1.465	.555	1.502

Table Nine A
Correlations between Items of Supervisors' and Students' Forms of the Log of Supervisory Conferences
Second Month (November)

Item	Coefficient
1. Classroom procedures	.214
2. Discipline	.507[1]
3. Teaching techniques	.524[1]
4. New activities proposed and/or planned	.243
5. Existing activities developed or modified	.313
6. Specific children--progress and/or problems	.335[1]
7. Community affairs as they affect the school	.505[1]
8. The student's general effectiveness in the classroom	.212
9. Ways of making graduate work more meaningful in the classroom situation	.665[1]

[1] Signficant at the .05 level or beyond

Table Ten
Comparison of Item Means and Standard Deviation for Students' and Supervisors' Forms of the Log of Supervisory Conferences
Sixth Month (May)

	Student's Form		Supervisor's Form	
	Mean	S.D.	Mean	S.D.
1. Classroom Procedures	3.068	1.486	3.310	1.312
2. Discipline	2.833	1.577	3.066	1.595
3. Teaching Techniques	3.900	.994	3.600	1.10
4. New Activities proposed and/ or planned	1.965	1.741	1.965	1.401
5. Existing activities developed or modified	1.965	1.679	2.413	1.476
6. Specific children--progress and/or problems	1.266	1.387	1.800	1.423
7. Community affairs as they affect the school	.366	1.033	.400	1.101
8. The student's general effectiveness in the classroom	3.758	1.327	4.310	.760
9. Ways of making graduate work more meaningful in the classroom situation	1.133	1.613	.700	1.290

Table Ten A
Correlations between Items of Supervisor's and Students' Forms of the Log of Supervisory Conferences
Sixth Month (May)

	Coefficient
1. Classroom procedures	.135
2. Discipline	.511[1]
3. Teaching techniques	.182
4. New activities proposed and/or planned	.233
5. Existing activities developed or modified	-.037
6. Specific children--progress and/or problems	.533[1]
7. Community affairs as they affect the school	.866[1]
8. The student's general effectiveness in the classroom	.572[1]
9. Ways of making graduate work more meaningful in the classroom situation situation	.185

[1] Signficant at the .05 level or beyond

and deviations of the student teacher's and supervisor's responses to the indication of the significance of topics during the conferences, and the correlation of items for each conference. The means are not strictly comparable, for the values assigned by students may not have approximated those assigned by the supervisors. However, the comparison of the ratings given each topic can be interesting, and the correlations, indicating the extent of agreement between individual supervisors and students, are meaningful.

The two groups, so far as the means are concerned, were in agreement about the topics that constituted the content of the conferences. The greatest discrepancy occurred with respect to topic four, where the students gave less emphasis to "new activities proposed and planned" than did the supervisors. Possibly the students left the conferences with much less sure commitment to new course of action than the supervisor's thought they had.

During both months many of the items were positively correlated. Topics two six, and seven, especially showed moderately high agreement between the supervisors and students for both months. Topics one, four, and five were not correlated either month, while topics eight, nine, and three showed low correlations one month and fairly high ones the other month.

Hence, the supervisors and students in some respects seemed to agree about the content of the conferences, while in other respects they did not agree. They agreed most when they had been talking about community affairs, discipline, and specific children. They agreed least about the topics "classroom procedures" which is probably the vaguest of the set of items, and about the making of plans, which is probably a more serious area of disagreement.

Before considering the relation between the content of the conferences and the use of the feedback system, we need to consider a special form that the supervisor completed after each conference and which was specifically designed to secure a running assessment of each student's use of the feedback systems.

Language of Analysis in Supervisory Conferences

Table Eleven presents the Means and Standard Deviations for each of the six months for the four items of the form entitled "Language of Analysis in Supervisory Conferences." These four items are presented on page 52.

From Table Eleven it can be seen that the means, generally were lowest in October, when the feedback system was

Form B-3

Supervisor's Name____

Student's Name____

Date____

Place____

LANGUAGE OF ANALYSIS IN CONFERENCES

1. Did the student employ tapes, films or analysis of same in analyzing her own work? 0 1 2 3 4 5

2. Did she use categories from one of the coding systems? 0 1 2 3 4 5

3. Is the student setting goals for the improvement of his teaching in terms of the analytic systems or instructional models from the Seminars? 0 1 2 3 4 5

4. Do you find the practicum systems are helpful in giving advice to the student? 0 1 2 3 4 5

Comment or amplify if necessary.

Table Eleven
Means and Standard Deviations
Language of Analysis in Supervisory Conferences
for Six Months

Item	Month					
	First	Second	Third	Fourth	Fifth	Sixth
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
1. Did the student employ tapes, films or analysis of same in analyzing her own work?	.60 (1.428)	2.86* (2.063)	1.53*** (1.736)	.40 (.813)	.63 (1.272)	.66 (1.268)
2. Did she use categories from one of the coding systems?	.66** (1.372)	2.26* (1.910)	1.33 (1.493)	1.10 (1.061)	1.33 (1.516)	1.36 (1.519)
3. Is the student setting goals for the improvement of his teaching in terms of the analytic systems or instructional models from Seminars?	.66** (1.321)	2.48* (1.920)	1.60 (1.652)	1.53 (1.382)	1.80 (1.627)	1.53 (1.502)
4. Do you find the practicum systems are helpful in giving advice to the student?	.96** (1.513)	2.96* (1.855)	1.90 (1.768)	1.83 (1.366)	2.20 (1.562)	1.90 (1.561)

*Significantly higher than all other months at .05 level or beyond (one-tailed T tests)

**Significantly lower than all other months at .05 level or beyond (one-tailed T tests)

***Significantly higher than 1st, fourth, fifth, and sixth months at .05 level or beyond being introduced, rose to their peak in November, when greatest efforts were being made to implement the system, and then levelled off for the rest of the year with none of the differences during the second semester reaching significance.

The very low means of item 1, "Did the student employ tapes, films, or analysis of same in analyzing her own work." are a curious finding. The question was originally included to enable a "screening-out" of the students who were not using the system, so that the causes could be isolated. It was expected that the means would be above three, with many four's and five's. Instead, the mean is less than one, indicating that, in the conferences of the second semester the tapes and films which had been made were barely employed at all! Yet, such employment was logically essential to what we are told in items 2, 3, and 4. According to these results, many students were using categories from the coding system (item 2) and actually were setting goals for the improvement of teaching in terms of the coding system, but in the conferences themselves actual analysis of tapes and films went on very little during the second semester. This is the more remarkable because the weekly analysis was theoretically one of the most important elements of the feedback system. We return to this topic in the discussion of results.

In Tables Twelve and Thirteen are item intercorrelations of the four items of the "Language of Analysis in Supervisory Conferences" for November and April, separately. In November, when use of the feedback system in conferences was apparently at its peak, the four items were highly correlated, no coefficient being below .70. In May, the drop in mean of item one is accompanied by a lowering of the correlations between item one and the other three items, although the latter items remain highly related.

Apparently the supervisors and students continued, during the second semester, to use the analytic framework of the feedback system while reducing the direct analysis of tapes and films. The continued high relationship between items two, three, and four indicates that the more the student used the system, the more the supervisors felt the system was useful to the students. It is impossible to tell from these data whether supervisors used the system more with the students who responded well to it or whether students with whom it was more used benefitted most from it. Since nearly all students reported satisfaction with the system, the probabilities favor the latter notion,

Table Twelve

Item Intercorrelations for Language of Analysis in Conferences

Second Month (November)

Item	1	2	3	4
1. Did the student employ tapes, films or analysis of same in analyzing her own work?	-----			
2. Did she use categories from one of the coding systems?	.787	-----		
3. Is the student setting goals for the improvement of his teaching in terms of the analytic systems or instructional models from the Seminars?	.729	.727	-----	
4. Do you find the practicum systems are helpful in giving advice to the student?	.708	.733	.747	-----

Table Thirteen

Item Intercorrelations for Language of Analysis in Conferences

Sixth Month (May)

	1	2	3	4
1. Did the student employ tapes, films or analysis of same in analyzing her own work?	-----			
2. Did she use categories from one of the coding systems?	.279	-----		
3. Is the student setting goals for the improvement of his teaching in terms of the analytic systems or instructional models from the Seminars?	.263	.740	-----	
4. Do you find the practicum systems are helpful in giving advice to the student?	.194	.684	.762	-----

but we cannot be sure.

Language of Analysis and Content of Conferences

In order to determine whether high use of the feedback systems was related to the types of problems discussed in supervisory sessions (Was the system more useful for some problems than for others?) the students judged high and low users by their supervisors were compared as to content of conferences. No differences emerged. The profiles of high and low users on both forms of the "logs" were virtually identical and identical with the picture presented thus far.

In a further effort to determine whether use of the system was related to the content of the conferences, intercorrelations were made between the items of the "Use of Language in Supervisory Conferences" and the items of both forms of the "Log of Supervisory Conferences." No correlation approached significance. Evidently there were no relations between the use of the feedback system, or of supervisors' judgments about its usefulness, and the content of the conferences.

It had been expected that the feedback system would be far more useful in discussions of some topics than in others. Apparently this was not the case.

The Supervisor as a Factor

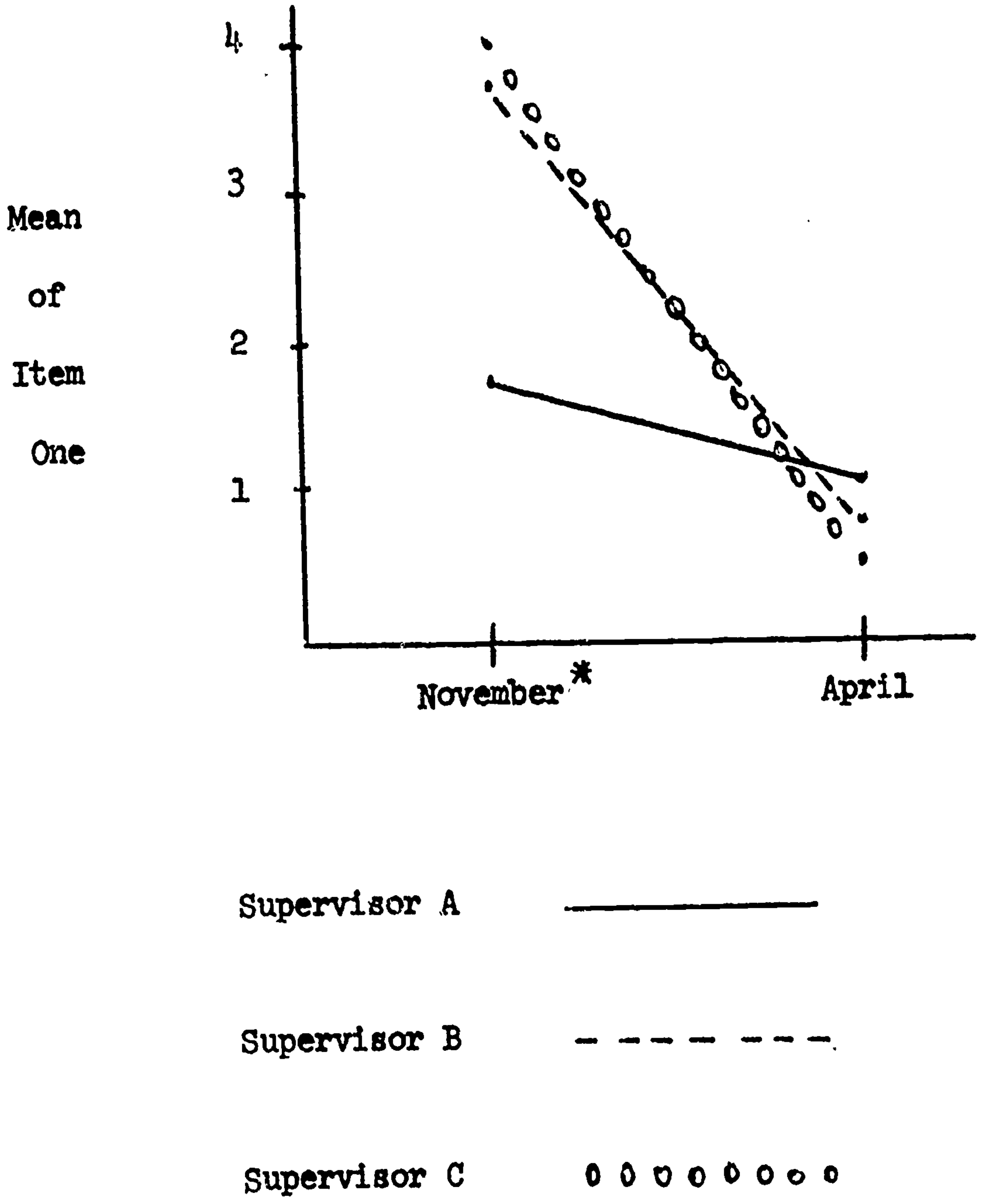
In the course of the analysis of these data evidence gradually accumulated that another variable was affecting the use of the feedback system in the conferences -- the supervisor. Consequently specific analyses were made of the "Language of Analysis in Supervisory Conferences." In Figures One and Two the results of a comparison of means of items one and four is presented for the second and fifth months (November and April), each of which is representative of the results for the first and second semesters respectively. The significance of differences between means was determined through application of the t test for independent samples.

In Conferences A and B the use of the analysis of tapes and films dropped sharply in the case of all three supervisors, but with conferences of supervisor A the use of the language in the analysis of films and tapes was never very high. The effective implementation of both elements of the feedback system by this supervisor apparently never came to pass in the conferences.

From Figure Two it can be seen that supervisor C continued to find the feedback system useful in giving advice to his students, whereas A and B found it much less useful

Figure One

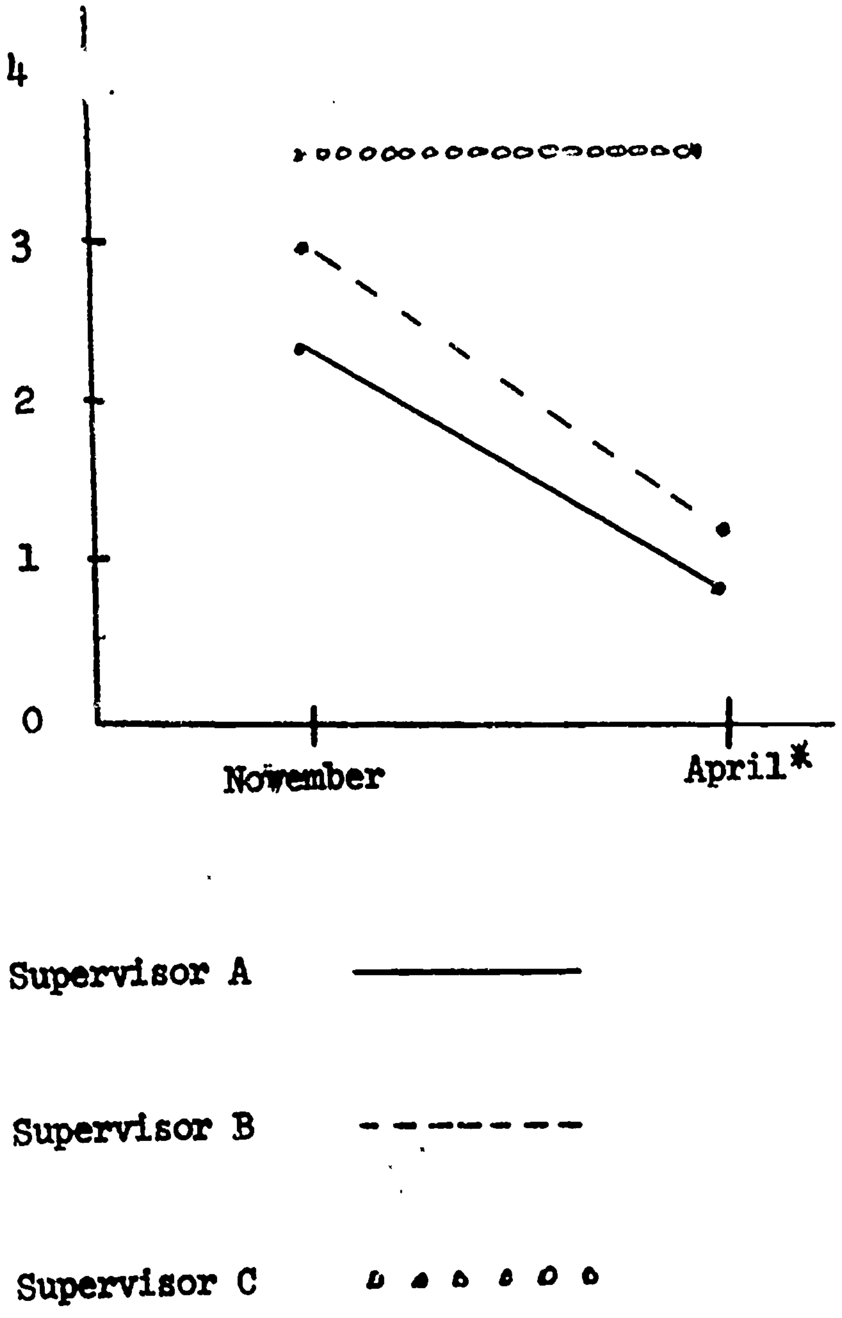
Use of Tapes and Films in Conference by Supervisor



* B > A at .05 level.
C > A at .05 level.

Figure Two

Usefulness of System by Supervisor



* C > B at the .05 level.
C > A at the .05 level.

during the second semester. Apparently supervisor C continued to give advice in terms of the system even while decreasing the direct analysis of taped and filmed episodes.

Summary of Results for Question One

Apparently the use of the system was quite low at the beginning of the teacher education program, but it increased very sharply very early in the program with the actual peak of use being the seond month of the first semester. After that use continued, especially to discuss problems and set goals, but the actual analysis of tapes and films in conferences was at a low level during the second semester of student teaching.

Students and supervisors were in general agreement about most of the content of their conferences, but the content of the conferences was not related to the use of the feedback system or perceptions of its usefulness.

If students were emotional or upset during a conference, the feedback system was not used.

Evidently the feedback system came into heavy use after about a month of instruction in the feedback techniques despite the inexperience of the supervisors with respect to the system. However, the analytic techniques rather than direct feedback became the mode of operation during the second semester. Left to their own devices, supervisors and students made very little use of the system in conferences, compared to what was possible.

It appears that one cannot count on the inherent attractiveness of the system to maintain a level of high use, despite the fact that the system was used, and believed to be useful, fairly early in the year.

Question Two:

"Can teacher trainees, independent
of faculty, carry on the feedback
and analysis sessions?"

It will be recalled that each week groups of ten students with one supervisor as leader met together for a seminar, part of which was to be devoted to the use of the feedback system. In addition to the feedback techniques, supervisors were free to employ other supervisory techniques and to build sessions around any aspects of the teaching-learning process. Also, it was during the seminars that much of the routine business of the teacher education program was conducted. Student teaching assignments were discussed, as were problems of the communities in which student teaching was done, and a wide range of topics were possible.

Hence, in any given seminar, it was legitimate for the feedback system to get much or little emphasis. The whole seminar could be occupied with the analysis of tapes and films, or they could be crowded out completely. The amount of useage of the feedback system in the seminars probably reflected the overall feeling of the supervisor and his students about the usefulness and meaningfulness of the system at the moment and its applicability to the problems at hand.

Furthermore, after listening to a taped episode or watching a filmed episode, the seminar members might discuss teaching with or without reference to the behavior that had just been presented through the use of media. Hence, a tape might be carefully analyzed with the behavioral system, or it might be analyzed generally, or it might be disregarded and hypothetical examples of teaching discussed instead. It was therefore possible for a supervisor to employ the system, but still to prefer and actually use, hypothetical rather than real examples of teaching or for him to use verbally-transmitted rather than media-transmitted examples of teaching.

During the semester, each supervisor absented himself from the seminar several times and turned the leadership of the seminars over to students. The preparation for student leadership varied widely, depending on the judgment of the supervisor at the time.

Two questions are explored here. "What effects did the change of leadership have on the content of the seminars?" and "What was the degree of student satisfaction with student-led as opposed to faculty-led seminars?" All seminars were tape-recorded and a content analysis was made of the recordings of the seminars to answer question about content. Several items on the "Monthly Questionnaire for Supervisory Adequacy" related to the latter question.

The Content of the Seminars

A system for the content analysis of the verbal interaction of the seminars was constructed in order to compare the use of the feedback system with other seminar content.

Hence, the first two categories of the system were developed a priori' and dealt with the use of the two major aspects of the feedback system.

They were:

1. Discussion of teaching with use of the system for the behavioral analysis of teaching.

2. Discussion of a filmed or taped episode of teaching by a seminar member.

In addition to these categories, several other categories were developed inductively after the analysis of a number of seminars. Gradually these were combined into two more categories.

3. Discussion of teaching without use of the behavioral analysis of teaching or reference to a taped or filmed teaching episode.

4. Discussion of administrative details of the teacher education program.

A "miscellaneous" category was used but occurred with very low frequency and it was dropped from the analysis.

Research assistants achieved high reliability (over 95% agreement) using the four-category content analysis system. They subsequently performed the content analysis of tapes of all conferences, both faculty supervisor-led and student-led. The unit of analysis was one utterance by one speaker to one listener for a period not to exceed fifteen seconds.

The content analysis system thus applied enabled the content of the seminars to be separated into communications involving the elements of the feedback system and communication which did not involve those elements. It was particularly desired to track the amount of use of the feedback system throughout the year of the teacher education program and to see whether the system was used more or less when the leadership of the seminar was changed.

The seminars are designated by supervisor and hence will be referred to as Seminars A, B, and C. The content of the seminars varied by supervisor and as a consequence, the data were analyzed and are presented separately for each seminar.

The Content of Supervisor-led Seminars

Table Fourteen presents the frequency and percentage of the four categories for the first semester by supervisor. Regarding first the totals for all supervisors, it appears that about one third of the communications within their seminars were devoted to administrative routine, thirty six and one-half percent involved discussions of teaching when the feedback system was not employed, and about thirty percent involved discussion of teaching when the feedback system was employed.

The amount of communication given to administrative detail seems large for seminars which are ostensibly held for instructional purposes. (In Seminar A, the total was

Table Fourteen
Content of Seminars
by Supervisor
First Semester

	Seminar A		Seminar B		Seminar C		Total	
	F	%	F	%	F	%	F	%
Category 1 Discussion of Teaching With Use of Analytic System	100	5.5	81	4.1	336	17.3	517	9.1
Category 2 Discussion of Teaching With Use of Tapes and Films	304	16.8	687	35.0	225	11.6	1216	21.3
Category 3 Discussion of Teaching - No Use of Feedback System	635	35.1	661	33.7	789	40.8	2085	36.5
Category 4 Discussion of Teacher Education Administrative Details	769	42.5	532	27.1	584	30.19	1885	33.1
Total	1808		1961		1934		5703	

Chi Square = 589.745 ($p < .005$)

actually 42.5 percent.)

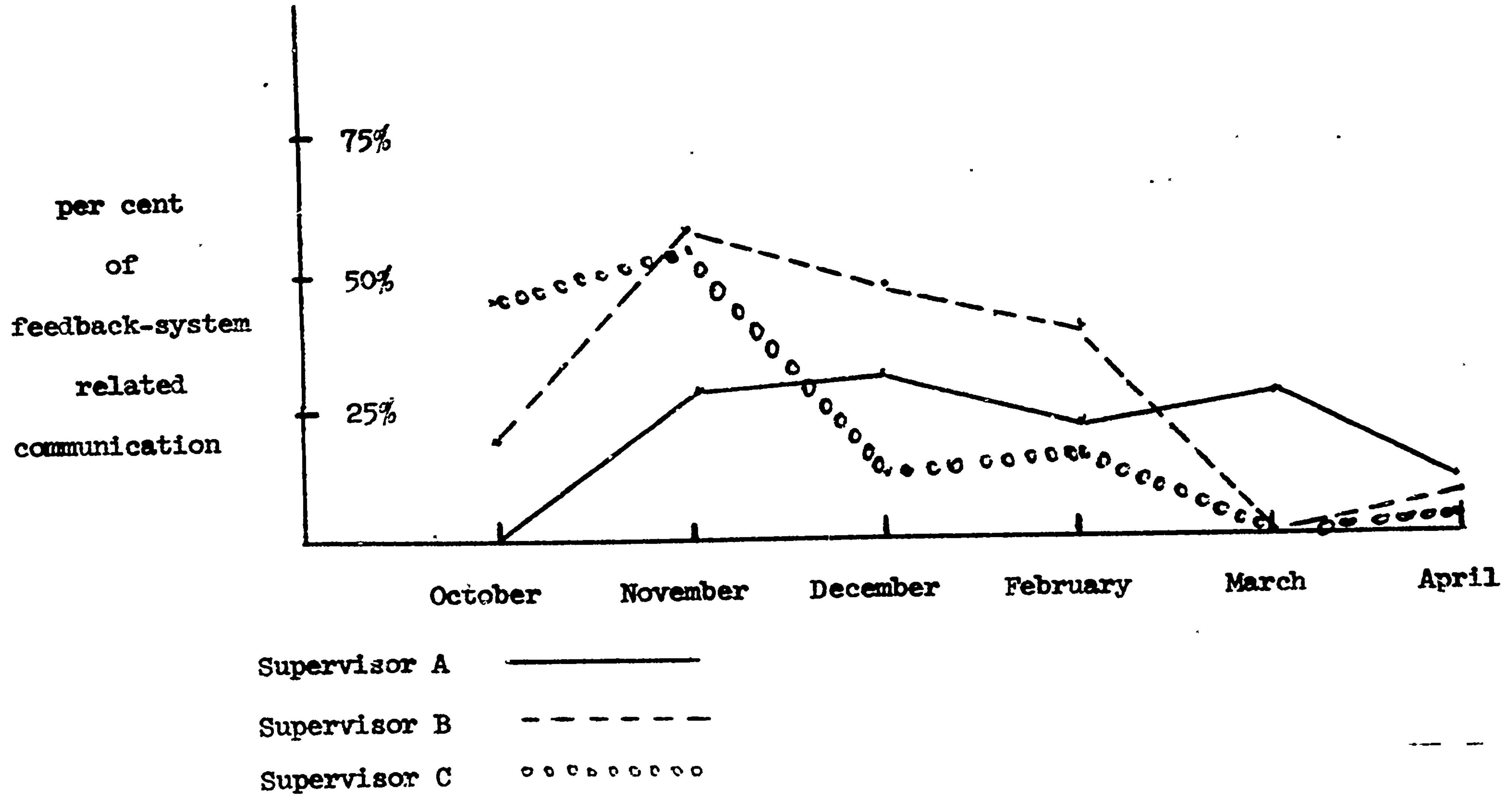
The distribution of communications within the seminars were quite different in the amount which involved the use of analysis (17.3 percent in Seminar C against 5.5 percent and 4.1 percent in Seminars A and B). Communications referring to tapes and films also varied widely (35.0 percent in Seminar B and 16.8 and 11.6 percent for the others). A chi square test enables the rejection of the hypothesis that the proportions are the same with better than the .005 level of significance.

The distributions for the seminars of each supervisor changed during the semester with respect to the use of the feedback system. Figure Three shows the pattern for October, November, and December, when the students were in the schools and tapes and films were available during the first semester, and shows the second semester figures as well.

Supervisor "A" did not employ the feedback system at all during the month of October, but it was included in over twenty-five percent of the communications of his seminars during the other two months. The seminars of the other two supervisors reached a peak of about 50% in November, then the one who began with the highest proportion of usage in October (38%) dropped off to ten percent in

Figure Three

Percent of Feedback-Related Communications for Each Supervisor's Seminars by Month



December, while the seminars of supervisor B dropped only to thirty eight percent.

Second semester communications involving the feedback system dropped off compared to the first semester and virtually disappeared by April.

There is some similarity, then, in the amount of use of the feedback system between seminars and the conferences discussed during the last semester, with low use at first, and a sharp rise in the second month.

In Table Fifteen the content of Seminars "A," "B," and "C" are compared for the three months. Chi square tests indicate that we can reject the hypothesis and that the proportions were the same, in all the months, for any of the seminars.

Content of Seminars Under Student Leaders

Since the three seminars displayed different patterns of use of the elements of the feedback system, the comparison of the content of each seminar under faculty and student leadership will be made separately.

Tables Sixteen, Seventeen, and Eighteen present a content analysis for each of the three seminar groups, for the sessions in which there was student leadership and three sessions in which there was faculty leadership. The

Table Fifteen
Feedback and Non-Feedback-Related Communications for Each Seminar Through the First Semester

Month	Feedback-Related Communication	Non-Feedback - Related Communication	Total
Seminar A			
October	0	424	424
November	81	379	460
December	164	258	422
Total	245	1061	1306
Chi Square = 210.209 (p.< .005)			
Seminar B			
October	194	534	728
November	425	387	812
December	310	302	612
Total	929	1223	2152
Chi Square = 122.800 (p.< .005)			
Seminar C			
October	210	442	652
November	262	421	683
December	97	803	900
Total	569	1666	2235
Chi Square = 177.774 (p.< .005)			

Table Sixteen

Content Analysis of Seminar A

Under Faculty and Student Leadership

Type of Leadership	Feedback-Related Communication		Related Communication		Total
Faculty	280	(48.1%)	302	(51.9%)	582
Student	233	(42.1%)	320	(57.8%)	553
Total	513		622		1135

Chi Square = 4.088 $(p. < .05)$

Table Seventeen

Content Analysis of Seminar B

Under Faculty and Student Leadership

Type of Leadership	Feedback-Related Communication		Non-Feedback - Related Communication		Total
Faculty	419	(49.1%)	435	(50.9%)	854
Student	460	(64.7%)	251	(35.3%)	711
Total	879		686		1565

Chi Square = 38.520 ($p. < .005$)

Table Eighteen

Content Analysis of Seminar C

Under Faculty and Student Leadership

Type of Leadership	Feedback-Related Communication		Non-Feedback - Related Communication		Total
Faculty	286	(37.3%)	480	(62.7%)	766
Student	57	(6.7%)	791	(93.3%)	848
Total	343		1271		1614

Chi Square = 225.403 ($p. < .005$)

supervisor and student-led sessions were close together in time, to minimize differences that might have been caused by the tendency of seminar content to change during the semester.

In Seminar A showed a similar proportion of feedback-related behavior occurred under student and faculty leadership, but the difference in proportions was great enough to be significant at the .05 level. In Seminar B student-led sessions showed much more (fifteen percent) feedback system communications and the difference in proportions was significant at the .005 level. In Seminar C the feedback-related behavior almost disappeared under student leadership. Interestingly enough, discussion of administration, especially of cooperating teacher relations, actually increased under student leadership of seminar C, and totalled 38 percent for the semester. The students frequently seemed, while analyzing tapes, to drift away from the topic of teaching and begin to discuss their program, their relations with schools, and the obligations of cooperating teachers.

Apparently either the type of leadership given by faculty or the student composition of the seminar groups resulted in sharply different effects when students took over the seminars. It is interesting that in Seminar C, where feedback-related behavior almost disappeared under student leaders, the proportion of feedback-related behavior was lower under faculty leadership than it was at that point in the semester under faculty leadership. Also, feedback-related communication was low in all three of Seminar C's student-led sessions. A close examination of the tape recordings of those sessions revealed that in those sessions little use was made of tapes or films of student lessons.

Student Satisfaction with the Student-Led Seminars

At the end of the semester the "Questionnaire on Seminars" was administered to all the students. This instrument included a number of questions about whether students were comfortable using the feedback techniques. The substance of the results was that about twenty-five of the students felt increasing comfort with the techniques, and believed they had growing competence in their use. Also, the questionnaire included a checklist regarding satisfaction with various dimensions of the faculty and student-led sessions.

As Table Nineteen, the checklist is presented with the frequencies tabulated for each cell. Apparently the checklist was not clear to the students, so the frequencies

Form D - First Semester
Student's Form

QUESTIONNAIRE ON SEMINARS

Name____Date____________

Cooperating Teacher____

A. Did the Seminars help you look at your teaching more objectively? If so, specify how.

B. Did they add to your rapport with your cooperating teacher?
with your college supervisor?

C. Did you become competent to use the analyses of teaching techniques that were presented? Explain.

D. Did you grow more comfortable with this technique as the semester advanced?

E. Your college supervisor was present at some of the Film Feedback sessions. Would you check the following categories to indicate how these sessions compared to those where he was not present?

Sessions with Supervisor present				Sessions with Cooperating Teachers only		
More	Same	Less	Categories	More	Same	Less
			Comfortable			
			Helpful			
			Vigorous			
			Concrete			
			Extensive			
			Theoretical			
			Related to Classroom			
			Related to Program			

F. Can you give a concrete example of the difference between the sessions where your supervisor was present and where he was absent?

Table Nineteen
Student Satisfaction with Faculty and Student Leadership of Seminars by Frequency of Response

E. Your college supervisor was present at some of the Film Feedback sessions. Would you check the following categories to indicate how these sessions compared to those where he was not present?

Sessions with Supervisor present				Sessions with Cooperating Teachers only		
More	Same	Less	Categories	More	Same	Less
2	16		Comfortable		10	
10	8		Helpful	3	3	4
10	8		Vigorous	1	6	3
9	8	1	Concrete	4	4	2
10	5	1	Extensive	2	2	4
10	6	2	Theoretical	2	6	2
8	8	2	Related to Classroom	3	6	1
13	5		Related to Program	1	5	4
78	64	6	Total	16	42	20

of the responses related to faculty-led conferences do not correspond to those for the student-led conferences, which should be the case. Hence, no statistical analysis was attempted. Inspection, however, leaves the impression that the faculty-led seminars were more highly valued.

Only 20% of the checks for student-led discussions were indications of "more" whereas over 50% of the checks for faculty-led sessions were "more." Fewer than 5% of the checks for faculty-led sessions were in the "less" column, whereas 25% of the checks for student-led discussions were placed in the "less" column.

The last item of the "Questionnaire on Seminars" asked whether students could give a concrete examples of the differences between the two types of sessions. Seven students remarked that there were no differences. Seven felt that faculty-led sessions were "more relevant." Four (all from Seminar C) remarked that teaching styles were more effectively discussed when the faculty member was present. Four students stated that the discussion wandered when students were leaders. Three favored student-led seminars because they dealt more directly with student problems.

The results are somewhat mixed. Evidently feedback content can be used by student-led groups -- students can help one another analyze teaching. However, one group did not continue analyzing teaching when the faculty member was not present and some students expressed dissatisfaction with student-led seminars. Clearly careful training is necessary if the feedback system is to include prominent roles, but the development of such roles appears to be feasible.

Question Three:

"To what extent can cooperating teachers
from the public schools substitute for
college faculty in providing feedback to
student teachers?"

During the second, or Spring semester, cooperating teachers from local schools were attached to each of the seminars. They worked with the faculty until they indicated that they were comfortable with the feedback system. Then they provided leadership for several of the seminar sessions (at least four sessions for each seminar group.) Again, an analysis was made of tape recordings of the seminars so that the use of the feedback techniques could be gauged from the verbal interaction within the sessions.

Content of Faculty-Led Seminars During Second Semester

Table Twenty shows the results of the content analysis for the faculty-led seminars during the entire second semester.

Again, the proportions of communication classified into the four general categories differed from Seminar group to Seminar group. In Seminar A over 45% of the communication still involved administrative details, with only slightly over 15% being involved with the feedback systems. In Seminar C, use of the feedback system was indicated by only 8.7% of the communications, while two-thirds of the interaction was discussions of teaching which did not involve use of the feedback system.

The results indicate that in the seminars, which presumably were to be structured around feedback techniques, actually very little verbal interaction was really feedback-related. Given the choice, supervisors and students evidently preferred or were more able to talk about administrative manners or about teaching, but without using the feedback system.

Further, the amount of seminar communication that was devoted to feedback dropped off in the course of the

Table Twenty
Content of Three Seminars Under Faculty Leadership During Second Semester

	Seminar A		Seminar B		Seminar C		Total	
	F	%	F	%	F	%	F	%
Category 1 Discussion of Teaching With Use of Analytic System	161	6.6	271	8.1	250	6.4	682	
Category 2 Discussion of Teaching With Use of Tapes and Films	209	8.5	337	10.1	89	2.3	635	
Category 3 Discussion of Teaching - No Use of Feedback System	966	39.4	1840	55.3	2655	67.4	5461	
Category 4 Discussion of Teacher Education Administrative Details	1115	45.5	878	26.4	943	24.0	2936	
Total	2451		3326		3937		9714	

Chi Square = 668.142 ($p. < .005$)

semester. Figure Four indicates the percentages of communication devoted to the two elements of the feedback system during each of the three months of the semester. The use of the behavioral analysis almost disappeared during the second semester, dropping to one-tenth of one percent during April. The use of tapes and films continued, but at a much lower level than during the first semester. Also, during February, the month of highest use of the feedback system, an external force operated on the seminars. All students made two television tapes during that period and the tapes, with an operator for the tape machine, were "made available" to the seminars. With tapes, machine, and operator so prominent in the situation, the use of feedback was probably given an artificial boost.

Cooperating Teacher Leadership: The Content of the Seminars

In Table Twenty-one, Two, and Three, are presented the content analysis of three sessions of each Seminar when cooperating teachers served as leaders, compared with three faculty-led sessions closest in time to the teacher-led sessions.

The use of the language for analyzing teaching was uniformly low in both types of leadership. In Seminar C,

Figure Four

Use of Elements of Feedback System
Under Faculty Leadership During
the Second Semester

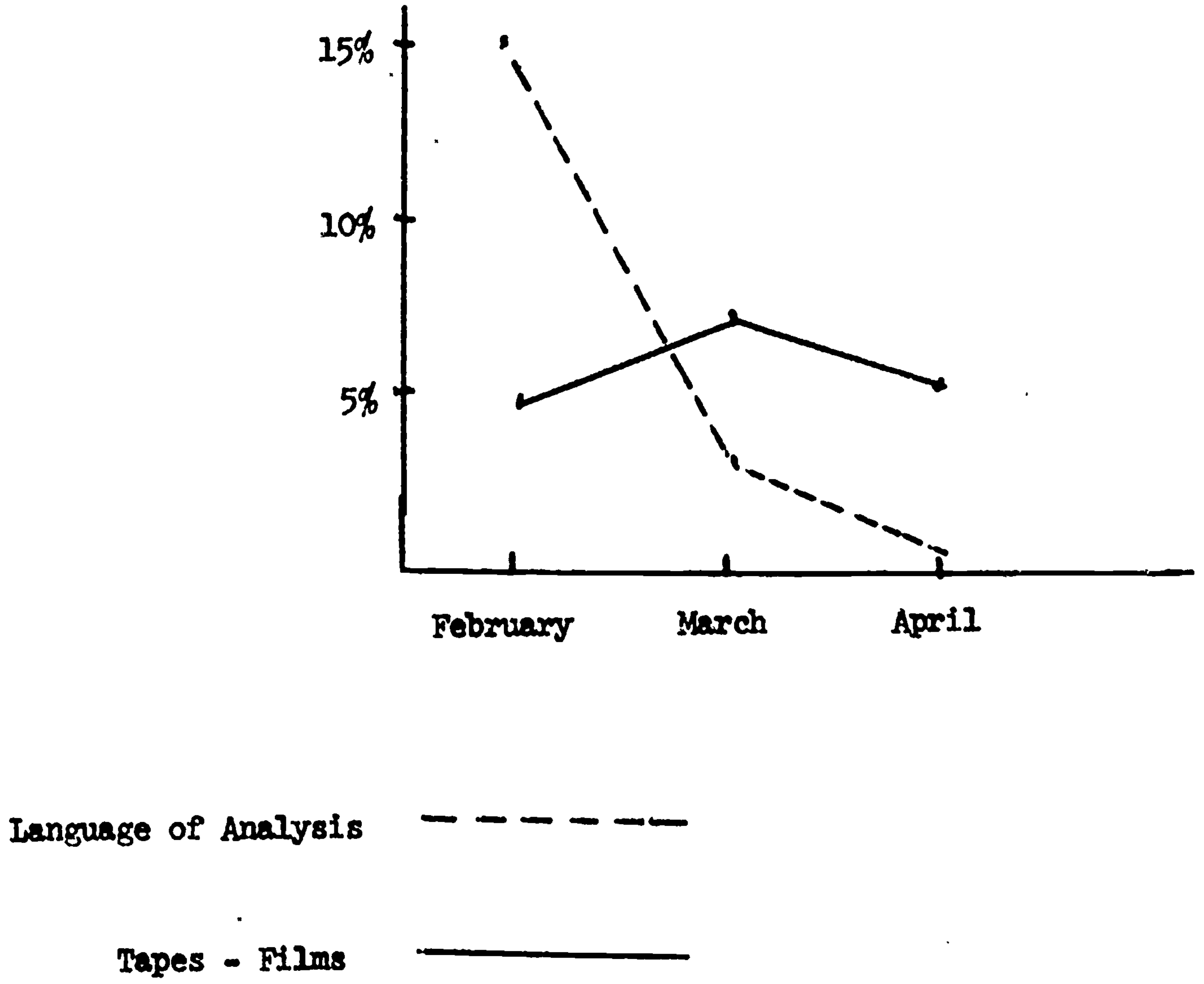


Table Twenty-One
Content Analysis of Seminar A
Under Faculty and Cooperating - Teacher Leadership

	Type of Leadership		
	Faculty Supervisor	Cooperating Teacher	Total
Category 1 Discussion of Teaching With Use of Analytic System	31	21	52
Category 2 Discussion of Teaching With Use of Tapes and Films	181	169	350
Category 3 Discussion of Teaching - No Use of Feedback System	377	484	861
Category 4 Discussion of Teacher Education Administrative Details	443	24	467
Total	1032	698	1730

Chi Square = 135.176 $(p. < .005)$

Table Twenty-Two
Content Analysis of Seminar B
Under Faculty and Cooperating - Teacher Leadership

	Type of Leadership		
	Faculty Supervisor	Cooperating Teacher	Total
Category 1 Discussion of Teaching With Use of Analytic System	0	5	5
Category 2 Discussion of Teaching With Use of Tapes and Films	41	9	50
Category 3 Discussion of Teaching - No Use of Feedback System	770	380	1150
Category 4 Discussion of Teacher Education Administrative Details	276	2	278
Total	1087	396	1483

Chi Square = 135.176 ($p. < .005$)

Table Twenty-Three
Content Analysis of Seminar C
Under Faculty and Cooperating - Teacher Leadership

	Type of Leadership		
	Faculty Supervisor	Cooperating Teacher	Total
Category 1 Discussion of Teaching With Use of Analytic System	0	0	0
Category 2 Discussion of Teaching With Use of Tapes and Films	72	119	191
Category 3 Discussion of Teaching -- No Use of Feedback System	776	359	1135
Category 4 Discussion of Teacher Education Administrative Details	255	12	267
Total	1103	490	1593

Chi Square = 176.120 ($p. < .005$)

not even a single communication was classified as a use of the behavioral analysis. In Seminar A, however, both faculty and student-led use of films and tapes was about 20% and in Seminar C about 10% of the interaction was direct discussion of tapes and films.

Although in all three seminars the proportions are significantly different, much of the difference can be accounted for by attention to administrative detail when the faculty member was the leader. (Over 40% In Seminar A, 25% in Seminar B, and nearly 25% in Seminar C.) When Category 4 is eliminated from the analysis, the differences in proportions in Seminars A and B disappears. In Seminar C the difference is that in cooperating teacher-led sessions a much higher proportion of communication was related to the analysis of films and tapes. Table Twenty-Four compares the three seminars under the two leadership conditions with the administrative category removed. The most interesting finding in the data is that the more the faculty-led sessions employed the tapes and films, the more the cooperating teacher-led sessions employed those devices. Can we speculate that if the faculty had used the behavioral analysis more, then the cooperating teachers would have followed

Table Twenty-Four
Content of Three Seminars Under Two Leadership Conditions with Administrative Content Omitted

Categories	Type of Leadership					
	Seminar A		Seminar B		Seminar C	
	Faculty	Teacher	Faculty	Teacher	Faculty	Teacher
Use of Analytic System	31	21	0	5	0	0
Use of Tapes and Films	181	169	41	9	72	119
Non-Feedback-Related Discussion of Teaching	377	484	770	380	776	359
Total	589	674	811	394	848	478

suit? Or are the students the variable?

In any event, the use of feedback by the sessions chaired by teachers was very close to the use by faculty.

Student Satisfaction with Teacher Leadership

Again at the end of the semester the "Questionnaire on Seminars" was administered to the students. The first questions asked if they were becoming more competent and comfortable with the feedback system and again eighty percent of the students said they were and about five students (16%) said they definitely were not.

With respect to their opinion of the different types of leadership in the seminars, the students were presented with the same checklist used to compare leadership patterns during the first semester.

Table Twenty-Five contains the results. Again there was some confusion with respect to the use of the checklist and again statistical analysis is not possible, but the impression again is that there was some preference for faculty-led seminars. However, looking at the individual questionnaires, only four students definitely preferred the faculty leadership, and those four accounted for most of the differences that can be seen in Table Twenty-Five.

Table Twenty-Five
Student Satisfaction with Faculty and Student Leadership of Seminars by Frequency of Response

E. Your college supervisor was present at some of the Film Feedback sessions. Would you check the following categories to indicate how these sessions compared to those where he was not present?

Sessions with Supervisor present				Sessions with Cooperating Teachers only		
More	Same	Less	Categories	More	Same	Less
1	25	0	Comfortable	1	22	1
15	12	0	Helpful	3	16	6
9	16	1	Vigorous	3	15	4
9	14	1	Concrete	6	15	1
12	14	0	Extensive	2	16	5
11	14	1	Theoretical	3	14	6
3	16	4	Related to Classroom	7	16	1
8	15	0	Related to Program	2	14	5
68	126	7	Total	27	128	29

Reasons given for preferring one leadership over another followed no particular pattern. The most frequent comment was that sessions led by cooperating teachers were "more realistic."

It is possible that were roles of both student leaders and teacher leaders legitimized more fully that there would have been different results.

To summarize, the amount of use of feedback system elements when cooperating teacher assumed leadership of the seminars closely followed the patterns of the supervisory-led sessions. The chief difference in leadership pattern was in the area of "administrative detail," where naturally the faculty member would be more involved than the teacher. Students did not seem to prefer cooperating teacher leadership, but that pattern is mixed. The students gave few concrete examples that clearly favor faculty leadership, and some seemed to value the practical leadership of the cooperating teacher.

"How Much "live" Classroom Visitation of Student Teachers is Required in Addition to the Analysis and Feedback Sessions?"

In a practical sense, the approach to this question was to reduce the amount of classroom supervision by faculty members and to see if there were any observable effects. This strategy did not permit a full answer to the question "how much is needed" but rather permits some judgment about whether "normal" supervision can be reduced drastically without undesirable effects. Through subsequent studies optimal systems may be constructed - probably involving the use of flexible supervision patterns.

Normal supervision in the Teachers College program required each supervisor to visit the student teacher in his classroom not less than once each week. This pattern was followed for half of the students in supervisory groups "A," "B," and "C." This half will be referred to as the Weekly Visitation Group. The second group of the students were visited just half as often, and we will refer to them as the Bi-Weekly Visitation Group. Students were not told that there was to be any variation in the amounts of visits they were to receive. Supervisors were instructed to behave toward all students as if their individual pattern was normal and tailored to their needs.

Students were permitted to request additional conferences with faculty members in addition to the regularlyscheduled one. This practice involved a kind of "safety device" for the students whose supervision was reduced, because they could ask for more help as they needed it. It also seemed that the amount of requests for help and the type of help asked for would yield a solid index of whether the students felt they were getting enough supervisory help. If the students in the Bi-Weekly visitation group were being deprived of sufficient help, for example, then the effects of that deprivation might be seen in more cries for help.

Hence, each faculty supervisor announced to his group that he was available on an "on call" basis. The principal investigator prepared "on call" reports which each supervisor was to complete each time a student asked for help. These questionnaires were designed to identify the reason for the "on call" contact and the type of action taken.

The "On-Call" Contact Between Faculty and Students

The effort to use "on call" contact as an index of felt need for supervision was a failure. The thirty students initiated only eleven contacts with their supervisors during the entire semester, and two students accounted for six of the contacts. Only once did a supervisor report that he initiated contact with the student. Eight of the "on call" contacts were with students who were being supervised weekly. The small amount of demand contact, however, renders worthless any attempt to compare the two groups on that basis. Either student need for supervision did not manifest itself through initiation of contact with the supervisors or both amounts of supervision were well above the level which would give use to the need. (Possibly of course, students simply wanted to minimize contact with their supervisors for completely different reasons than those being investigated here.)

Student Opinion about Supervisory Adequacy

Each month during the year each student completed a questionnaire in which he was to indicate the kind of progress he was making in his student teaching and comment on the adequacy of his supervision. (The "Monthly Questionnaire for Supervisory Adequacy.") During the months on which the amount of supervision varied the responses to the questionnaire were tabulated and analyzed.

Again the criterion measure displayed too little variability to enable clear judgment. All but two of the students consistently reported that they were receiving adequate supervision. Students did not report any need for help that revealed a pattern. Evidently all the students were quite well satisfied with the supervision they were receiving.

Supervisors completed the same questionnaires with exactly the same result. On all relevant items satisfaction with supervision was expressed.

Apparently, then, reducing the classroom visitation by half was not sufficient to increase on-call reports or to decrease student or supervisor satisfaction.

In a further attempt to determine the effects of varying supervision, the individual items on the "Monthly Questionnaire" were analyzed. Table Twenty-Six presents the results for all subjects on both forms. It is interesting to note that the supervisor's means were higher than the student's means on all items pertaining to growth and were equal or lower on all items pertaining to difficulty in student teaching. In other words, the students appeared to be harder on themselves than the supervisors were, rating progress lower and difficulty higher. In addition, it is interesting to note that only two correlations were positive. On no item where growth was concerned did the supervisor and student's ratings show a

Table Twenty-Six
Comparison of Responses on Monthly
Questionnaire for Supervisory
Adequacy, Both Forms
Month of May

Item	Students' Form		Supervisors' Form		Coefficient of Correlation (between forms)
	Mean	S.D.	Mean	S.D.	
1. General growth and maturity	1.800	1.156	2.866	1.382	-.060
2. Better rapport with the children	2.066	1.201	3.266	1.484	.009
3. Better rapport with your cooperating teacher	1.733	1.172	3.066	1.112	-.038
4. More varied approaches to teaching	2.900	1.241	3.466	1.252	.008
5. Greater ease and confidence in the classroom	2.933	1.311	3.733	1.142	.010
6. Greater sense of purpose	2.233	1.478	3.466	1.382	.315
7. Rapport with your cooperating teacher	.766	1.430	.833	1.288	.520
8. Rapport with children or discipline	1.7333	1.284	2.000	1.438	.242
9. Classroom procedures and organization	2.166	1.464	1.400	1.302	0.000
10. Teaching Techniques	2.500	1.167	1.700	1.149	-.038
11. Your own personal or emotional problems	.482	1.056	.517	.986	.368

positive correlation. With respect to difficulties encountered, only two correlations were positive, those pertaining to discipline and personal or emotional problems.

The Weekly and Bi Weekly groups are compared in Table Twenty Seven in terms of the means and standard deviations of the monthly questionnaire items, student's form and supervisor's form, for the last month of student teaching.

The results indicate that the means were nearly identical for all items on both forms of the questionnaire.

Evidently, frequency of supervision did not affect the growth made or difficulties encountered by the student teachers. It must be remembered, also, that the students were not aware that supervision was being varied systematically (although they were no doubt aware that all was not equivalent on the program) but the supervisors definitely were aware that they were seeing some students twice as often as others. Aware or not, they saw no differences in progress or problems.

Discussion

The object of the study is to contribute information which can be used in the development of integrated feedback systems for teacher education. Integrated systems combine the behavioral analysis of teaching with tape and film reproduction of teaching episodes to assist the novice teacher to comprehend what he does as a teacher and to set goals and monitor his progress toward those goals.

The strategy of this study was to implement an integrated feedback system in a teacher education program which had not previously had one, and to observe the behavior of staff and students who were learning to use the system. Identifying the tasks they could do easily and the difficulties they encountered should increase our understanding about personnel deployment and training over a feedback system.

The results that have been presented thus far need to be interpreted in the context of an important condition that was not within the scope of the study as it was designed. That condition is that the faculty supervisors were inexperienced in feedback techniques and remained uncomfortable with the system to a great extent throughout the year. Although only three faculty members were involved -- hardly a representative national sample of teacher educators -- the principal investigator is now convinced of what he should have known previously, that a feedback system should not be instituted unless it is accompanied by intensive staff training and specification of roles. The effectiveness of the feedback system studied in the present investigation were greatly conditioned by the inexperience of the faculty, their insecurity with the procedures, and their consequent varying morale.

Inservice training for college faculty members is a rarity. College faculty are not removed, however, from the need to improve their competence, and the case in point illustrated the need grossly. Yet these faculty members were the carefully selected staff of the teacher education program of a major university. They were preparing for positions of leadership in other programs. Theoretically they should be well above the average in ability to teach themselves. Yet everything reported herein is conditioned by the fact that they did not receive enough training for the tasks they were called on to master. (The fault was not theirs.) This observation, informal and accidental as it is, is probably the most important finding of the study.

The rhetoric of their troubles was staggering. The faculty reported openly that they were uncomfortable at first when they analyzed tapes and films with students. The behavioral analysis of teaching seemed awkward and it was a long time before they learned to supplement it to develop a rounded strategy to use with their students. They only slowly came to see how to use time-lapse sequences for feedback. They disliked persuading students to submit to filming. All of these practices are so routine to the principal investigator that he utterly failed to anticipate that they would be so troublesome to learn.

However, the feedback system did go into effect and all elements were in use throughout the year. The faculty struggled through, and their troubled state enables us to examine staff utilization problems more sharply, probably, than if they had been highly skilled persons, dedicated to the development and improvement of feedback systems.

It seems safe to conclude that students can begin to apply the analysis of teaching to films and tapes of their own teaching after only a few hours of instruction in the analysis of teaching. However, they need skilled assistance if they are to set realistic goals for themselves and monitor their own progress. The fact that some students were uncomfortable with the system throughout the year suggests the conclusion that differential treatment should be accorded these students. It is possible that they may need special private sessions with very skilled and supportive instructors. It is interesting that the analysis of films dropped off in the conferences but many students continued to set goals in terms of the behavioral system. Evidently the framework of analysis remained useful and provided a language for goal setting. Although we cannot conclude for certain that the supervisor was a powerful variable, because the students were not randomly assigned to seminar groups, it appears very likely that he was an important factor, especially because the supervisors and students were reassigned at the end of the second semester and the supervisor's "patterns" seemed to persist. This reinforces the conclusion that the analysis of teaching can be carried on quite early in a program provided the instructors are skilled.

Students apparently were quite able to carry on the analysis of one another's teaching in seminars, although they tended to prefer faculty leadership. No strong dissatisfaction with student leadership occurred, however, and it appears that integrated feedback systems could well provide for student - student analysis of teaching roles. Again, the supervisor seemed to be a powerful variable, although we are not sure of this. It seems warranted that we conclude that students feedback roles can be included -- with faculty roles -- in integrated systems provided proper training is given by skilled faculty.

Cooperating teachers also were able to provide leadership, again with some reservations by students, and the supervisor's pattern of work seemed to influence the cooperating teacher's patterns greatly. The training of the cooperating teacher should probably be done systematically and not left to all faculty. However, there is much promise in including teachers in feedback roles because it plants the feedback system firmly in the public schools and probably would have a unifying effect on the goals of teachers and faculty.

It is notable that a huge percentage of communication was devoted to administrative matters when the faculty members were present, whereas under student and teacher leadership the seminars examined teaching almost exclusively, whether the feedback system was used or not. We can wonder how much time is taken with administrative detail in many seminars on teaching in other programs. It seemed to the research assistants who performed the content analysis that the faculty - led seminars were in a state of constant interruption by students asking questions like, "Do we go to the schools on Columbus Day?" "If we were in upper grade last month do we go to a lower grade next month?" and so on. Definitely organization needs to be accomplished. However, student and teacher - led sessions often seemed to the research assistants to get down to business and stay there because without the faculty member present, there was no one to whom to ask the administrative question.

Despite the limitations of the date -- the paucity of "on call" reports especially -- it seems clear that we found no sign of harm when classroom visits by supervisors were reduced by half. While we have no way of telling what an irreducible minimum should be, the way seems clear to the development of integrated feedback and supervisory systems that rely on a combination of teacher roles, student roles, and faculty roles and in which on-the-spot visitation of student teachers in the classroom is only a part of the supervisory process, rather than its backbone, as in the past.

The unexpected finding that supervisors and students did not agree on the areas in which students were growing or the areas in which they were having difficulty (except for disciplinary problems!) warrants attention. Surely it seems that a feedback system could be constructed so as to increase supervisor and student agreement.

Certainly it is hard to explain how students and supervisors can be together for an entire year, examining films and tapes of teaching, discussing teaching in behavioral terms, and still fail to agree on areas of progress and difficulty other than discipline! We are tempted to speculate that the entire supervisory process -- feedback system and all -- was seriously flawed. There needs to be careful study of communication about teaching among the personnel engaged in the various roles in an integrated feedback system. Simple reliability in using a behavioral - analytic system is not sufficient to produce close communication on all phases of supervision.

We can only speculate about whether student-faculty agreement on areas of growth and difficulty would have been greater if the use of the feedback system had been maintained at a high level throughout the year. It is necessary, before we can answer that question, to observe the effects of a more fully implemented system than we were able to bring about here.

Recommendations

The recommendations in this section reach somewhat beyond the data and, in addition, draw on a more general experience with integrated feedback experience. They also draw to a limited extent on a developmental study of the teaching behavior of the student teachers who were the subjects of this study. The developmental study, which paralleled the present investigation, resulted in some measures of the effectiveness of the feedback system which was the focus of the present study.

The results of the investigation of staff behavior reported herein were mixed and were severely conditioned by the inexperience of the faculty who implemented the system. However, some consistent patterns emerged and several recommendations can be made with respect to the development and implementation of feedback systems for teacher education.

The most important recommendation has been stated in the previous section. It is that the implementation of feedback systems require extensive staff training and support and, at least in the initial years, a rather definite specification of faculty roles. Staff need to know how to help students analyze their teaching, set goals, and monitor progress. Staff also need specific advice on how to train students to provide feedback to one another. The fact that student use of the system varied with faculty supervisor suggests that faculty behavior should be closely studied to determine how they can best behave to optimize student use of the system.

Second, because the behavior of students, student leaders, teacher leaders, and the content of feedback sessions generally seems to be at least a partial function of individual differences in faculty, then faculty need to be taught to recognize their own effects and to modulate them in behalf of the students.

Third, the tendency of faculty supervisors to devote a substantial portion of group feedback seminars to administrative trivia suggests that the administration of any feedback system should be conducted so as to minimize the necessity to deal so continually with organizational matters.

Fourth, it appears that prominent faculty and teacher roles can be successfully developed in feedback systems.

Fifth, the absence of effects when supervision in the classroom was reduced suggests that careful investigations should be undertaken to determine optimal supervision when feedback systems are employed.

The lack of agreement between faculty and students on the areas of progress in learning to teach and the areas of difficulty suggests that the processes by which students and faculty learn to analyze teaching need to be scrutinized very carefully. It seems necessary to include within feedback systems methods for continually monitoring and improving the reliability of all parties in the analysis of teaching and for providing help in transferring behavioral analyses to other more general judgments about teaching.

Despite initial faculty discomfort in the use of the feedback system, much use of the system was attained by the second month and it appears that the self-analysis of teaching can begin after relatively short periods of training. However, the clear tendency to use more traditionally based discussions of teaching as the year went on suggests that if a feedback system is to be maintained and improved, it needs to be constantly tended. Especially during the latter part of the year, faculty frequently observed a film of a student and then, after perfunctory discussion of the film, discussed teaching techniques without reference to the filmed episode. Faculty and students need help in rejuvenating their use of feedback techniques, not so they will use them exclusively, but so they do not, in their discussions of teaching, shy away from the relatively strong reality of tapes and films, and take refuge in hypothetical discussions.

However, it seems quite possible to prepare faculty, students, and cooperating teachers to fulfill feedback roles that are integrated with "live" visitations and supervision to create a solid, integrated system. The results of this investigation, however, point to the necessity of careful role definition and training for roles especially with respect to faculty deployment.

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Summary

An integrated feedback system which was designed to enable student teachers to analyze their teaching, set goals for improvement, and monitor their own progress was instituted in the Teachers College, Columbia University, Teacher Education Program. The central elements of the system were the use of a system for the behavioral analysis of teaching and the use of regular films and audio and television tapes of teaching by the student teachers. Faculty behavior was analyzed, and students and cooperating teachers assumed feedback roles, with the effects analyzed. In addition, classroom visitation of student teachers was varied to determine the effects of such a reduction when a feedback system is in use.

Content analyses of feedback sessions and questionnaires given to faculty and students were the sources of the data.

It was concluded that supervisors need extensive training for feedback roles. Students and cooperating teachers led supervisory sessions without apparent negative effects on the content of the feedback sessions, but the individual supervisor was an important factor in the content of the seminars under all forms of leadership. Evidently the use of the feedback system can profitably begin early but it needs careful monitoring. There is a tendency for supervisors to use hypothetical discussions of teaching in lieu of discussions of filmed and taped teaching episodes. Varied amounts of classroom supervision produced no ill effects.

Pronounced differences between supervisors and students with

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respect to the evaluation of teaching suggest that the relatively high reliability of behavioral feedback may not be transferred to more general evaluations of teaching.

It is recommended that integrated feedback systems include prominent feedback roles for students and for cooperating teachers, but they need training to fulfill those roles and students preferred faculty leadership, which indicates that expectations and roles need to be carefully defined.

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