EXPERIMENTATION TO DETERMINE THE FEASIBILITY
OF REMOTE SUPERVISION OF STUDENT TEACHERS

DISSERTATION

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CHAPTER I

INTRODUCTION

Orientation to the Problem

A facet of teacher education programs undergoing change and analysis is supervision, especially as it applies to the supervision of student teachers during that period of time when they are actively engaged in the experience of teaching in a school. "Student teaching is regarded by many educators as the factor in professional education which most determines the kind of teacher the student will become" (Association for Student Teaching, 1964, p. 108). Conant regards this student teaching experience as the most important experience of the total teacher education program.

Problems involved in providing the prospective teacher with such an experience are encumbered by exploding college enrollments, and over the last decade, a consequent change in the nature of the student teaching experience from the college-controlled, laboratory-school internship to the off-campus, adjunct program now operative in most colleges and universities preparing teachers. (AST, 1964, p. 15).

Even though this direct experience for the student teacher has been moved off campus, it is still a supervised activity under the direction of the college supervisor. The
purpose of this experience (activity) is the development of a teacher who can function effectively and contentedly in the classroom.

The function and concept of supervision have changed from being directive and prescriptive to being a cooperative enterprise.

The supervising teacher and the college supervisor assist the student teacher to develop skills and help him see his actions from the viewpoint of others, to evaluate them, to learn from them, and to modify them if necessary (Schueler and Lesser, 1967, p. 14).

Technological changes and development of new instructional media have also helped to modify the role of the college supervisor. The possible use of audio and video tape recorders for observation and analysis of the student teacher's lessons in the nonsimulated professional situation offers new approaches to supervising methods. The availability of new media in communications such as portable video recorders and conference phones opens up new avenues for observing student teachers' lessons and conducting supervisory conferences. Use of video recorders can enhance the feedback process as an aspect of supervision. This technique was illustrated by McDonald and Allen (1967) in their experiment on "Training Effects of Feedback and Modeling Procedures on Teaching Performance" at Stanford University in which their objective was to
compare the effects of self-evaluation of a teaching performance with feedback provided by a supervising instructor. This research supported the educational theory that increased knowledge of results facilitates learning. Olivero (1964) commented that "availability of portable video recorders may enable educators to investigate previously unanswered questions related to supervision as part of the teacher training programs" (p. 5). The use of video-phone and audio-phone supervision would allow the college supervisor efficient use of much non-productive time such as traveling to and from the public schools.

A pilot study involving tele-supervision (supervision of student teachers by telephone supplemented by recording and amplifying equipment) was conducted in Wisconsin during the 1964-1965 academic year (Dalrymple and White, 1965). The effectiveness of university supervision via tele-supervision was studied. Supervisory subjects in this pilot study were two graduate students, each of whom interned each semester with the same cooperating teacher. Results were positive, warranting further study and comparison within a wider range of conditions (Dalrymple and White, 1965). A question raised was:

Would the same results occur with administrators, supervising teachers, and college supervisors of different experience and temperament and with less
mature student teachers such as undergraduates (Dalrymple and White, 1965, p. 7)?

A second study undertaken at Wisconsin involved each student teacher in four experimental and four controlled school situations during the 1965-1966 academic year. The student teaching experience was confined to a 7-week block of time. A recommendation was made as a result of the favorable evidence of feasibility in that limited study warranted further experimentation in different kinds of situations and with such alterations as were deemed important for improvement of the supervisory technique.

Findings from a pilot study conducted by the Vocational and Technical Education Department, College of Education, University of Illinois indicated that:

1. Participating student teachers showed improvement in teacher performance.

2. Video taping proved to be an excellent means of providing instant, accurate feedback.

3. The system of conference telephone critiquing of a student teacher's lesson has merit as a supplement to scheduled calls by university supervisors (Perlberg, Tinkham and Nelson, 1968, p. 3).

Although there were no statistical data supporting these findings, they do have relevance for further research undertaken related to the use of the conference telephone in alternative methods of supervising student teachers.
Apparent limitations inherent in the exclusive use of face-to-face supervision have included the following:

1. University supervision has necessitated the blocking out of one-half to a full day of valuable supervisory time for each visit to the teaching center plus non-productive time required for travel with its uncertainties in bad weather.

2. Student teaching centers have tended to be located near the university or grouped in accessible areas (to avoid wastes in travel time), thus excellent supervising teachers and schools in remote parts of the state are eliminated from participating in the student teaching program.

3. Observation of student teachers' classroom performance and the availability of the college supervisor's guidance have been generally restricted to a limited number of contacts plus written correspondence.

4. Limited contacts may place unnatural stress and strain on all members of the triad, especially the student teacher.

It could not be assumed that the above described limitations would automatically be removed by the use of conference telephone and audio and video recorders or that other equally serious limitations would not be substituted. However, it may be that some combination of alternative method of supervision could be effective without loss of the benefits that accrue from personal contact with the college supervisor.
Statement of the Problem

Due to increasing numbers of students in many teacher education programs necessitating great travel distances to student teaching centers without the concomitant increase in teacher education faculty, the supervisory personnel shortage for the pre-service supervision of student teachers is critical. This justifies seeking the means whereby college supervision of the student teaching program is made as effective as possible in spite of such conditions. Though quantitative demands increase, qualitative supervisory effectiveness must not be jeopardized.

There has been shown to be considerable agreement among college supervisors, supervising teachers and student teachers from the home economics education departments of institutions in four different states that the college supervisor performs a unique function and is perceived as a vital, necessary part of the student teaching situation (Dirks, Elliott, Lowe, and Nelson, 1967, p. 36). Today's college supervisors have a task that is more demanding than ever due to the complexity of the student teaching situations.

In the present study the following question was investigated: Is remote supervision of pre-service home economics education student teachers through the use of audio-phone and video-phone techniques feasible? Does it allow for effective guidance and evaluation of student
teachers during their culminating field experience of their teacher education program? Does use of this educational medium have implications for choosing alternative methods of supervision?

Purpose

The purpose of this study was to examine the feasibility of remote supervision of student teachers in order to determine if there are alternative methods of supervision which, while allowing for effective guidance and evaluation, can be chosen depending upon current social and economic conditions, technological changes and innovations in education, particular school settings, and the needs of individual student teachers. Specifically, an attempt was made to answer the following questions:

1. Are the effects of three supervisory methods significantly different in terms of improvement of a specific teaching behavior: demonstration of a manipulative skill?

2. Do the three supervisory methods have significantly different effects upon student teachers within the same confidence levels in terms of improvement of a specific teaching behavior, demonstration of a manipulative skill?

3. Are the effects of three supervisory methods significantly different in terms of the student teachers' confidence at the close of their student teaching experience?

4. Do the three supervisory methods have significantly different effects upon student teachers within the same confidence levels in terms of improvement on posttest confidence scores?
5. Are the effects of three supervisory methods significantly different in terms of expressed satisfaction of the student teachers?

6. Do the three supervisory methods have significantly different effects upon student teachers within the same confidence levels in terms of expressed satisfaction with the supervision from the college?

7. Is there a significant difference in satisfaction expressed by the supervising teachers in the three supervisory treatment groups?

8. Is there agreement on satisfaction expressed by the student teachers and supervising teachers in the same supervisory treatment groups?

9. What is the expressed satisfaction of the college supervisors with each of the three supervisory methods?

10. Are the expenditures of time and money resources similar for the alternative methods of college supervision?

The methods of remote supervision being tested hold promise for permitting a wide range of cooperating schools to be selected for the student teaching experience, eliminating undue wastes in travel time, increasing contacts between college supervisors and student teachers, and increasing student teacher self-evaluation.

Theory Underlying the Study

During the past 70 years there has been an overabundance of research on the evaluation of a teacher's effectiveness. It is the opinion of many authors (Remmers, 1963; Gage, 1963; Cyphert and Andrews, 1967; and Mitzel, 1960) that this research has not led to the integration of
findings into some fruitful theoretical framework. Mitzel (1960) felt that we need much precise, painstaking research in teacher effectiveness oriented toward a variety of educational situations such as the "functioning classroom." Most classrooms are isolated from the frontiers of knowledge. The process of translation, transmission and integration of knowledge into teachable units must be accelerated.

In terms of media research, there has been a scarcity as well as few replicated studies. There has been a prevalence of non-significant differences reported in the findings coupled with the nonreported results. There has been a tendency to regard negative results as less interesting, illuminating or worthy of publication than positive findings (Schueler and Lesser, 1967).

In the jargon of the day, the "hardware" for a revolution in teacher education programs is now available and becoming widely used; while the "software" - supplies of expertly prepared programs and recordings plus concomitant professional insight and skill - have yet to be conceived, developed, tested, and made readily available (Cyphert and Andrews, 1967, p. 1067).

There is a need to place video tape recording in teacher education into some perspective. It can be useful for well-defined objectives in improving teacher education.
One does not have to look far to discover research findings that are contradictory about the same phenomena, for example: positive effects in providing "feedback" via use of video recordings (McDonald, Allen and Orme, 1967; Acheson, 1964; Olivero, 1964) versus non-significant results or less effective use of this media in providing feedback in teacher supervision (Johnson 1960, Michael and Maccoby, 1963; and Tintera, 1960). Audio and visual media have educational effects in that they influence behavior and are an indispensable part of our educational resources.

Although authors such as Gagne (1960), Remmers (1963), and Schueler and Lesser (1967), point out characteristics in educational research that could be classified as shortcomings, there are many research findings that have contributed theoretical elements or learning theories upon which there is widespread agreement among educators.

Those elements or theories upon which this study is based are the following:

1. The role of feedback in learning.
2. The value of actual experience in learning.
3. The function of satisfaction in learning.
4. The role of self-concept to learning.
The Role of Feedback in Learning

Results of research have indicated that feedback or knowledge of results is important in the learning process. Learning depends upon knowledge of results at a time when and at a place where the knowledge can be used for correction. Instruction increases the appropriate timing and placing of corrective knowledge.

"Knowledge of results" is useful or not depending upon (a) when and where the learner is able to put the corrective information to work, (b) under what conditions such corrective information can be used, even assuming appropriateness of time and place of receipt and (c) the form in which the corrective information is received (Bruner, 1964, p. 315).

In designing instructional systems to produce teacher behavior, it has been difficult to provide adequate feedback information on teaching performance. As stated by McDonald and Allen (1967), the difficulties in a face-to-face observation of a teacher are "that the procedure invites heavy reliance on private frames of reference, the communication requires a high order of psychological skill, and it stimulates defensiveness" (p. 1). The advent of the use of media such as audio and video tape recordings may help to alleviate some of these problems.

A large body of psychological literature supports the generalization that reinforcement procedures produce
learning. Increased knowledge of results facilitates learning. Related to research involving programmed instruction there appear to be increased gains when knowledge of correct response is provided (Johnson, 1966). Recent experiences at the University of Illinois (Perlberg, 1969) indicate that feedback given to a person on his present behavior plays a significant role in modifying his behavior. In studies concerned with video tape feedback (Acheson, 1964; and Olivero, 1964), supervisory conferences using television recordings of the teacher's performances resulted in significantly greater change in teacher behavior than verbal feedback alone.

As recommended in the Forty-Third Yearbook of the Association of Student Teaching (1964), two types of specific evaluation procedures - planned, professional observations and pupil merit ratings - are both based on a theory of "feedback." "It is the information received by the student through the feedback process which is going to make the difference in the development of a teacher" (AST, 1964, p. 94).

Thus, the role of feedback in learning does play an important part in supervision of student teachers. In investigating alternative methods of college supervision, the type of feedback used in evaluation procedures with
student teachers has as its primary function the improvement of teaching competence.

The Value of Actual Experience to Learning

Teacher education programs everywhere support the idea of the necessity of actual experience to enhance learning. This is illustrated by the educational experiences afforded students of education from participating in role playing, to laboratory activities, to experiences in the actual classroom. McKeachie (1963) states that from the standpoint of theory, "the activity of the student, the sensorimotor nature of the experience, and the individualization of laboratory instruction should contribute positively to learning" (p. 1144). From this activity of "laboratory practice" arises the question of the student's retention and ability to apply learning and skills. It is during the student teaching experience that this question may be answered.

In a follow-up questionnaire, beginning teachers considered their student teaching the most valuable part of their preparation (Boyce, 1952). This need for actual experience in the classroom has been supported by many educators of whom the most vocal has been Conant (1963) who feels that evidence of successful performance as a
student teacher, under the direction of college and school personnel in whom the state department of education has confidence, is needed before providing beginning teachers with a state certification license. Schaefer (1967) feels that this actual experience should not only add to the student teacher's learning in terms of the skills and techniques of teaching but also toward the development of a questioning attitude toward his profession, and the ability to use the classroom environment in search for new knowledge about classroom learning. In these studies on programmed instruction, the use of corrective feedback enhances the learning by doing. Previous research has demonstrated that learning from a factual film increases with the use of audience participation procedures (Michael and Maccoby, 1964).

In the development of programmed instruction the emphasis on active responding fits nicely with a traditional bias of American education, which emphasizes, after Dewey, learning by doing (Schueler and Lesser, 1964, p. 221).

Therefore, under varying educational experiences, the phenomenon that one learns by doing has been supported again and again. The value of actual experience to learning is one of the theoretical elements upon which this study is based.
The Function of Satisfaction in Learning

The function of satisfaction in learning is believed to be basic to principles of learning. "Effectiveness in learning, like all other aspects of human behavior, is highly related to the obtaining of satisfaction by the learner or individual" (Cassel, 1968, p. 225). One of the functions of an effective teacher deals with facilitating satisfaction in the learner. How can this be done? Several factors generate increased student satisfaction:

1. Relate the activity to learner's goals.
2. Pace activity to development of learner.
3. Vary and plan activity.

Other factors that affect student satisfaction are knowledge of accomplishment, and use of affect by the teacher (praise and reward). Continuous objective knowledge of progress by each student is essential for continued effective learning.

In research studies on production output in industry in the mid 30's it was discovered that output was closely related to the social satisfaction of the worker (Lucio, 1967). The major problems of management involved human relations. Kurt Lewin's concept that the group to which
an individual belongs is the ground for his perceptions, feelings and actions led to the idea that it is through the informal group that social need - satisfaction is provided (Lucio, 1967). It was this type of idea that influenced supervisory policies and practices in schools in the 1950's in terms of developing ways of influencing personnel toward instructional change.

The supervisor's classroom observation that has been well-planned in advance with objectives clearly defined, provides personal satisfaction to the participants. A meaningful observation followed by a conference period that includes feedback to the student teacher about his progress and allows time to plan for the next session will pay dividends in the satisfaction of everyone concerned.

Whether it be in terms of the individual learner in the classroom, the worker on the job, or the participants in a supervisory situation, the function of satisfaction is basic to principles of learning.

The Role of Self-concept to Learning

Every person develops a concept of self. This self-concept is important to learning.

It should be noted that acceptance and approval are given to a person, and as the infant appreciates this fact the concept of self begins to develop. The process of introjection or incorporation is one of the most important principles of human development (Symonds, 1964, p. 6).
It is from the pleasant attitudes of others expressed toward a person that he develops self and craves the same approval and admiration from himself as he previously would from others. Stock (1949) feels there is a definite relationship between the way an individual feels about himself and the way he feels about others. It is during the period of perceptual organization that the effects of rewards and punishments have such a great influence.

"Saliency or emphasis is a function of both pleasantness and of unpleasantness, but when pleasantness and unpleasantness are equally intense the former has the greater effect" (Sommer, 1957, p. 556). Therefore, in the development of a perception, pleasant results have greatest effect.

A healthy self-concept aids in learning.

If we acquire stature in our own sight, we acquire the desire to be somebody, to amount to something, to be successful, to be able to achieve and to master. This adoption of inner standards of success is never wholly divorced from desire for approval of others (Symonds, 1964, p. 6).

To gain this approval of others, one must first have developed a concept of self that is one of admiration, approval, acceptance and love. It is this need for enhancing the self that provides human motivation for learning.
An attempt has been made to develop a theoretical framework upon which to base this study. The following statements, based upon general agreement among educators as elements of learning theories are postulated as a theoretical foundation for this study:

1. The role of feedback is important in the learning process.
2. The value of actual experience or "learning by doing" enhances learning.
3. The function of satisfaction aids in the effectiveness of learning.
4. The role of self-concept is important to learning.

**Hypotheses**

Based upon the theoretical foundation developed for the study, the following hypotheses are postulated in order to determine the feasibility of using alternative methods of college supervision of pre-service home economics student teachers.

**Hypothesis 1.** There is no significant difference among supervisory treatment groups based on student teachers' posttest scores as measured by the manipulative skill instrument.
Hypothesis 2. There is no significant difference among the same confidence levels of the supervisory treatment groups on the basis of the student teachers' posttest scores as measured by a manipulative skill.

Hypothesis 3. There is no significant difference among supervisory treatment groups in the student teachers' posttest confidence scores as measured by a Confidence Scale.

Hypothesis 4. There is no significant difference within the same confidence levels of the supervisory treatment groups on the basis of the student teachers' posttest confidence scores as measured on a Confidence Scale.

Hypothesis 5. There is no significant difference among the supervisory treatment groups in the student teachers' satisfaction with the supervision from the college as measured by a Satisfaction Scale.

Hypothesis 6. There is no significant difference within the same confidence levels of the supervisory treatment groups in the student teachers' satisfaction as measured by a Satisfaction Scale.

Hypothesis 7. There is no significant difference among the supervisory treatment groups in the supervising teachers' satisfaction with the supervision from the college as measured by a Satisfaction Scale.
Hypothesis 8. There is no significant difference in agreement on satisfaction between the student teachers and the supervising teachers in the same supervisory treatment group as measured by a Satisfaction Scale.

Hypothesis 9. There is no significant difference in the college supervisors' satisfaction with the three supervisory methods which they used.

Definition of Terms

College supervisor. The college supervisor is the teacher educator who is employed by the university and whose responsibility during the pre-service student teaching experience is supervision. Her role also includes serving as liaison agent between the college and the school.

Supervising teacher. The supervising teacher is the home economics teacher in the public school who supervises the student while she is involved in the student teaching experience.

Student teacher. The student teacher is a college student at The Ohio State University who was involved in her student teaching experience during the Winter Quarter 1969. She had completed the Methods Course prior to this experience.
Teaching triad. The teaching triad refers to the student teacher, the supervising teacher and the college supervisor who are involved in the student teaching experience.

Administrator. An administrator is a person in an administrative position (e.g. superintendent, principal, assistant principal in a public school in Ohio who has made a cooperative agreement with The Ohio State University for home economics students to complete their student teaching in the school Winter Quarter, 1969).

Face-to-Face supervision. This is the conventional method of supervision in which the college supervisor has the usual contacts with the student teacher at the public school.

Audio-Phone supervision. This method of supervision by college personnel involves listening to audio tapes of classroom involvements of the student teacher and then conducting phone conferences.

Video-Phone supervision. This method of supervision by college personnel involves viewing and listening to video tapes of classroom involvements of the student teacher and then conducting phone conferences.
**Supervisory method.** Supervisory method refers to the face-to-face, audio-phone, and video-phone means of contact by the college supervisor with the student teacher.

**Supervisory treatment group.** The supervisory treatment group refers to the student teachers who are involved with a specific supervisory method. The three treatment groups are: Treatment Group One ($T_1$) - face-to-face supervisory method, Treatment Group Two ($T_2$) - audio-phone supervisory method, Treatment Group Three ($T_3$) - video-phone supervisory method.

**Confidence level group.** Confidence level group refers to a high, medium, or low group based upon the student teacher's written expression of "how confident she feels about her ability to teach."

**Confidence level cell.** Confidence level cell refers to a group of four student teachers in a specific confidence level group who received a specific supervisory method.


**Assumptions**

The following assumptions underlie this study:

1. The college supervisors are relatively homogeneous in their effect.

2. Satisfactions or dissatisfactions with the varying supervisory methods could be adequately verbalized by all participants.

3. Vlcek's Confidence Scale is an adequate measure of a person's confidence in his ability to teach.

4. It is appropriate to randomize for supervisory treatment in terms of student teaching centers rather than in terms of student teachers.

**Limitations**

The following limitations were recognized by the researcher in this study.

1. Since part of the expressed satisfaction required verbalization by participants, the data thus collected are limited to how able the participants were in expressing their feelings of satisfaction.

2. Since it was difficult to put a dollar value on expenditure of time and energy, discussion of any comparisons in terms of time and money resources for each supervisory method was based on the records kept by college supervisors.
Organization of the Report

Chapter I has revealed the concerns of educators which indicate the need for this study. A theoretical base for this investigation has also been developed. Further review of the literature is presented in Chapter II to inform the reader about the writings and research findings that have been reported which have direct implications for this investigation. The areas of concern are (1) college supervision, (2) observation techniques and (3) educational media as they apply to the student teaching situation. The review of literature was undertaken specifically to give a clear and decisive focus to the study as well as to help determine the methods and procedures to follow in collecting the data.

The methods and procedures that were used to fulfill the purposes of the study are presented in Chapter III. This includes the research design, sample and treatment groups, instrumentation, data collection plan and the plan for analysis of data.

In Chapter IV the analysis and discussion of the data are presented.

The summary, conclusions and recommendations based on the findings of the study are contained in Chapter V.
CHAPTER II
REVIEW OF LITERATURE

The review of literature presented in this chapter is arranged into three sections, (1) college supervision, (2) observation techniques and (3) educational media. Each of these topics is reviewed in order to give support to the alternative methods of college supervision used in this study.

The place, role and function of college supervision in teacher education programs has currently become a controversial issue. The literature reviewed illustrates the function of college supervision as it operates during the period of student teaching.

The topic, observation techniques, is reviewed to help justify the use of observational techniques of an audio and/or audio-visual nature as well as the use of the conventional method of face-to-face observation techniques during the student teaching experience. This review of the literature does support the value of alternative approaches to observation of student teachers.

The section on educational media is included to illustrate how media are adding a new dimension to the teacher education programs, thus allowing, for the first
time, an excellent opportunity to investigate the feasibility of remote supervision of student teachers. The emphasis is placed on the role of media as used by the triad in the student teaching situation to aid the student teacher in learning to teach, especially, in the development of pedagogical teaching skills. The influence of media on observation of student teachers as well as its use in providing feedback to student teachers is stressed.

Therefore, it is intended that this review of literature will clarify the role and function of the college supervisor during the student teaching experience, observational techniques and feedback used to increase the effectiveness of teaching behavior, and the role and function of educational media in college supervision.
College Supervision

The college supervisor's role, function and purpose have been the topic of recent writings and research (Hanke, 1967; Verrastro, 1967; Schueler and Lesser, 1967; Lucio; 1967). There is a need for a consensus about functional definitions of supervision. A conceptual framework which gives a perspective for viewing instructional supervisory behavior was proposed by Lovell (1967). "Instructional supervisory behavior, while external to the teacher-pupil system, is calculated to influence directly and purposefully teacher behavior in such a way as to facilitate student learning" (p. 12). Some educators view supervision as the teaching of teachers about teaching.

Role and Function of the College Supervisor

As Hanke (1967) views the college supervisor's role, it is one of "...administering, directing, guiding, and adapting the conglomeration of activities in which the student teacher will participate" (p. 35).

Those who published the Forty-Third Yearbook of the Association for Student Teaching (1964) viewed the college supervisor's role as that of an end man and a middle man; he must know both the "theoretical" world and the "real world" of the classroom. The way the supervisor
perceives his operational setting is likely to determine his supervisory behavior.

Success in supervision, rests in large measure upon the supervisor's ability to define and accept his role as having essentially the same dimensions as that of the teacher, but with a more mature and challenging clientele and with pedagogy itself as the focus of all intellectual endeavor (Lucio, 1967, p. 39).

Previous researchers identified roles assumed by college supervisors as: (1) giving security, (2) giving judgment, (3) giving information, (4) stimulating growth, (5) strengthening relationships and (6) identifying and/or solving problems (Cooperative Report, 1959). A cooperative research project carried out simultaneously at Cornell University, The University of Missouri, The Ohio State University, and Purdue University was aimed at identifying the contributions of the college supervisor in home economics to the student teaching situation. Effective and ineffective behaviors of college supervisors, based on data from critical incidents, were categorized in terms of the roles of the college supervisor. Findings from this study that have relevance for the present investigation are:

1. The college supervisors' behaviors seem important about equally to student teachers and supervising teachers.

2. College supervisors' behaviors are much more often effective than ineffective; that is to say, what the college supervisor did much more often than not produces a desired effect.
3. College supervisors and supervising teachers feel the contribution of the college supervisor is unique; college supervisor action in many student teaching situations was believed to be necessary.

4. Different methods of supervising were used for the different roles assumed by the college supervisor in the student teaching situation. Visit methods accounted for most of the judgment- and information-giving incidents; where non-visit methods were used, the security-giving role accounted for more incidents than others.

5. Non-visit methods served the supervising teacher with greater than expected frequency. The visit methods were used more frequently than expected to serve combinations of student and supervising teacher.

6. College supervisor behavior more frequently had an impact on the student teacher than on the supervising teacher in the student teaching situation. This was true in all roles she assumed.

7. Problems giving rise to college supervisory action were most apt to be in the areas of student teacher self-concept, lesson planning, program policies and requirements, and rapport with supervisor (Dirks, et al., 1967, pp. 35-36).

Thus, at different times and under varying circumstances the role and function of the college supervisor differ, yet, the need for the college supervisor persists.

Supervision has been recognized as a process and no longer is identified with a position. Although studies of the degree to which supervision is effective are limited, those available suggest that supervision is helpful.

"Supervision of student teaching is predicated upon the belief that supervision is a creative enterprise based upon the capacity of human beings to work together in a program of continuous growth" (AST, 1964, p. 24).
According to the Resident Supervisor's Handbook at Stanford University, the four major elements of supervision are: (1) observation, (2) conferences, (3) appraisals, and (4) follow-ups. (Bush, et al., 1967, p. 5). Follow-up in this context means that the supervisor observes the student teacher to see if recommendations made in the conference have been followed. It is Conant's (1963) belief that the "clinical professor," in reality, supervises very little. The college supervisor can appraise the advancement of the student teacher as the term progresses, but his major role is in other areas such as personal relations, representing his college, and planning or instigating changes in the student teacher program. The college supervisor is in a unique position to determine the success of the student teacher and the student teaching program.

One can arrive at a consensus of the personal qualities or characteristics that a supervisor should possess, but to obtain general agreement on definitions of the role and function of the college supervisor is a more difficult task.

Purpose of College Supervision

What is the purpose of college supervision in the student teaching program? What are the tasks of the
college supervisor? The main purpose is to facilitate the progress of the student teacher in teaching effectiveness. Cooper (1967) lists the tasks of the college supervisor as:

1. Help the teacher view his teaching perceptively.
2. Work with the teacher in suggesting new alternatives for aspects of his teaching that are problems.
3. Attempt to strengthen areas of the teacher's performance that are successful (p. 20).

To carry out the tasks of supervision, the college supervisor has long relied on two procedures that have been part of the student teaching program since 1917, (1) classroom visitation for the purpose of observing the student teacher conducting a class and (2) the supervisor-student teacher conference. Federally aided vocational education programs provided for student teaching and hence the work of the college supervisor was emphasized early in the vocational teacher education programs in home economics. The Vocational Acts provided time for conference periods in the daily schedule of vocational teachers in many states.

During a classroom observation, the supervisor usually sits in the back of the classroom, taking notes. Some educators question this procedure. But use of written reports serve as partial evaluation and help the student teacher become self-critical (AST, 1964). During the
observation period the supervisor sees the interplay of
the student teacher and pupils. The student teacher's own
involvement does not allow him to see this. "The student
teacher needs to look at himself while an objective, under­
standing and supportive supervisor helps him interpret his
teaching behaviors" (AST, 1964, p. 171). In research
carried out at Stanford University, it was noted that pupils
very accurately perceive the quality of a student teacher's
performance, but they have little notion of how the per­
formance can be improved (Bush, 1967). This remains the
concern of the supervisor.

There are arguments against class visitation. The
question is one of relativity: "How best to spend the
limited time of a faculty which will be forced to make
harder and harder choices as the ratio of students to
qualified observers becomes increasingly unfavorable"

In relation to the supervisor-student teacher con­
ference following the supervisor's observation, Ellingsen
(1968) suggests a supervisory cycle composed of six steps:

1. preplanning the meeting; being familiar with
the lesson plans
2. observation of the teacher in action
3. analyzing the teacher's behavior patterns
4. conducting supervisor-student teacher conference
5. giving suggestions for improvement; praise for
success
6. planning the next lesson  (p. 22).
The most important phase of this cycle is step four. The interpersonal aspect of the conference can result in the success or failure of the supervisory act. The main objective, as emphasized by Ellingsen (1968) is to involve the student teacher in self-evaluation, where she becomes autonomous, self-critical and willing to internalize needed changes in her teaching behavior. The purpose of this supervisory cycle is to improve classroom instruction by helping student teachers plan appropriate goals, analyze objectively what goes on, and make changes necessary to improve teaching behavior. During the conference period, the supervisor acts as a consultant rather than a critic. By asking questions and making constructive criticisms, the student teacher can be encouraged to ask questions and state how he feels.

Continued lack of consensus of the college supervisor's role and function and of the purpose that college supervision serves during the student teaching experience has increased the demands placed on the college supervisor. College and university teacher educators need to constantly seek new and effective ways to define their partnership with the schools in this vital and necessarily cooperative task of teacher education (AST, 1964).
Observation Techniques

Observation techniques used in educational settings for the purposes of evaluating the effectiveness of teaching behavior are varied. Direct observation is now being supplemented by the increasing use of tape recorders and video recorders to obtain records of a teacher's classroom performance. Even though observers are told to look at what is occurring, they tend to evaluate and react to what they see rather than describe it. Rogers (1952) has pointed out that the greatest barrier to communication is the tendency to judge or evaluate what is heard. His research supports the idea that listeners tend to react to a communication by agreeing or disagreeing. Johnson (1966) found similar results in her study that also indicated the greatest barrier to viewing an audio-visual presentation is the viewer's tendency to judge what is presented.

The use of direct observation in research on teaching was first used in studies concerned with teacher effectiveness.

Teaching effectiveness must ultimately be defined in terms of effects on pupils, more specifically, of changes in pupil behavior, but it is widely believed that a well qualified supervisor can assess the effectiveness of a teacher by watching him teach (Medley and Mitzel, 1963, p. 248).
An intermediate objective of teacher education with which the college supervisor is concerned is to get student teachers to behave in certain ways while they teach. It is the college supervisor who observes, records his observation and reports to the student teacher. It is during this "reporting" that adequate feedback can be provided the student teacher regarding his performance. McDonald and Allen (1967) identify three problems in present methods of giving a teacher information about his performance:

(1) They inadequately control the defensive reactions of communicator and communicatee.

(2) They require a teacher to visualize his performance from a word description of how he is behaving.

(3) They do not begin from a common perception of what was done, why and how it was done, and what the effects were (McDonald and Allen, 1967, p. 2).

According to McDonald and Allen (1967), the feedback process should have the following characteristics: (1) the feedback process should reproduce the teaching performance as completely and as reliably as possible, (2) it should be as objective as possible and (3) it should be as immediate and as frequent as possible. Audio-visual recordings have the first two characteristics and the third could be obtained by scheduling. Video tape has these and other advantages for recording the observation of a teacher's performance
in that it allows the teacher to observe his own performance and then the teacher and supervisor have a common starting point.

Making an audio tape recording of the teacher's lesson which is to be heard later is another method used by the supervisor that has proved useful in analyzing teaching effectiveness. "Recording an actual lesson can provide opportunity for self-evaluation in terms of teaching techniques while removed from the emotional involvement of the classroom situation" (Botsch, 1963, p. 33).

Whatever observational techniques are employed two basic problems tend to be present. One is the problem of clearly defining the behaviors to be seen and judged. The second is whether the type of situation in which the behavior is observed is free or structured. The student teaching centers present quite a variety of classroom situations in which the college supervisor observes and records teaching behavior.

Other problems presented by observational techniques include reliability and objectivity. Reliability in the sense of the stability of the characteristic observed involves the frequency with which an individual exhibits such behavior consistently. Repeated time samples provide more opportunities for observing the occurrence of the characteristic. Related to this problem is that of objectivity, or agreement of several observers on the occurrence of behavior for the same individuals in the same situations. This is often called "inter-observer reliability (Wrightstone, 1960, p. 927)."
A common tool for observation is a measuring device known as a rating scale. Rating as defined by Good (1961) is:

...an estimate, made according to some systematized procedure, of the degree to which an individual person or thing possesses any given characteristic; may be expressed qualitatively or quantitatively (p. 439).

Good (1961) defines rating scale as "a device used in evaluating products, attitudes, or other characteristics of instructors of learners" (p. 440).

In a study reported by McNeil (1967) on using behavioral objectives in the assessment of teacher effectiveness he reported:

The data in the studies reported herein provide evidence that the emphasis and use of operational definitions of instructional goals, including specification of criterion measures, in the supervisory process is accompanied by more favorable assessment of teachers by supervisors and greater gain in desired directions on the part of learners (p. 71).

In the use of portable video tape recorders since June 1966 in the student teaching program at Michigan State University the question was asked, How does the use of tape recordings affect the interaction of the student teacher, supervising teacher and coordinator? The answer was: "Interaction is greatly improved. By having an actual record of what occurred the student teacher, supervising teacher, and coordinator can talk more specifically about
the parts of the lesson" (Gustafson, 1967, p. 1071). In a study by Tintera (1960) who used kinescopes of the student teachers' teaching, a conclusion made was that the relationships and rapport which are necessary between two individuals analyzing the recording of the behavior of one of them are not necessarily inherent in the supervising teacher - student teacher relationship. He found that some of the analyses which emerged from the critique sessions centered on behavioral characteristics of student teachers. Observation is a complex task. As a technique used in the supervision of student teachers it not only involves observing the student teacher in the classroom but includes recording this observation so that a report can be given to the student teacher so he can improve his behavior.
Developing competence in the presentation of lessons is the paramount concern in the student teaching experience. There are many problems involved in this aspect of teacher education programs due to the current growing numbers of students involved in these programs. "Today we have one hundred and eighty thousand students; by 1970 the number is expected to grow to two hundred thousand" (Pula, 1968, p. 58). This increasing enrollment causes a problem associated with direct observation of classroom methodology both on the part of students and college supervisors.

It is the expressed concern of teacher educators (Conant, 1963; Perlberg, 1968; Allen and Ryan, 1969; Young, 1969; Wehmeyer, 1966) that teachers should be well equipped with skills and behaviors to handle classroom situations. During the student teaching experience, this class of behavior designated as teaching skills or competencies can be developed. Supervising teachers and college supervisors carry the responsibility for improving and sharpening these teaching skills. The target of every teacher behavior is a responsive student behavior. One of the goals of teacher education is to help the novice teacher widen his repertoire of maneuvers (Joyce and Harootunian, 1967).

Educational media are adding a new dimension to teacher education programs. Thus, it is appropriate to discuss...
the role of new media in education as it affects the student teaching program and the development of teaching skills, its influence on observation of these teaching skills by the college supervisor and thus the feedback received by the student teachers as well as its contribution to remote supervision.

The media in teacher education that are receiving current attention are television for use in teaching large classes or distant audiences, video tape recordings substituting for visits to the classroom for purposes of viewing classroom methodology, video tape recordings, kinescope films and regular films in simulated situations for purposes of analyzing specific teaching skills. Several other media in vogue are audio tapes for listening to teacher-pupil classroom verbal interaction; telephones in tele-lecture situations and for remote supervisory conferences; and microteaching techniques coupled with video tape recordings for self-confrontation, self-appraisal and improving teacher - pupil classroom interaction.

Media and Development of Teaching Skills

Any medium usable for self-appraisal will serve for appraisal of self by others.
Ways, therefore, of considering the possible functional contributions of new media to teacher education have meaning only when they keep the realities of circumstances and urgency of need in mind (Schueler and Lesser, 1967, p. 26-27).

The use of sound recordings have the advantages of convenience in terms of technical simplicity, low cost and extreme portability.

Sound tape is completely unidimensional and may provide a highly fragmentary account of an educational event. It must have either a dominant verbal character or be supplemented by on the spot commentary to provide verbal images of what is missing in natural sound transmission (Schueler and Lesser, 1963, p. 30-31).

With the advent of portable video tape recorders in 1963, the audio-visual recording media allowed a teacher to gain an objective sight-sound of himself. Whether the record is audio or audio-visual, it is always available for study and allows for the analysis of the behavior itself, in whole or in part, and can be repeated as many times as needed.

Tintera (1960) studied three student teaching critique methods used by supervising teachers. The three methods were (1) conventional - supervisor observations and conference, (2) supervisor observation and three voice tape recordings used in conference and (3) supervisor observation
and three kinescopes of student teacher's performance used in conference. His conclusion was that there was no significant difference in performance on pedagogical skills as measured by his instruments except on the follow-up after six months of professional teaching when the teachers in the experimental groups rated significantly higher than the control groups on the same test instruments (Minnesota Teacher Attitude Inventory, the Ryan Observation Scale, the Student Attitude Scale of Teaching Problems, Teacher Self-Describer and Supervisory Rating).

During the 1964-1965 academic year, two Home Economics Education staff members at the University of Wisconsin undertook a study for the purpose of exploring the use of tele-supervision, utilizing amplified communications systems in the supervision of student teachers (Dalrymple and White, 1965, p. 1). This pilot study represented an effort to assess the effectiveness of telephone conferences for the purposes of university supervision of student teachers while these students were teaching in schools located at great distances from the university. Specific questions to be answered by the pilot study were:

1. To what extent can a three-party conference by telephone provide satisfaction to the intern, the cooperating teacher and the university supervisor?
2. To what extent is it possible to utilize tape recorded or amplified classroom situations as a supplement to the supervisor's limited presence in the teaching-learning situation?

The results gave positive answers to the two questions. The amount of time the college supervisor spent with tele-supervision was less than with conventional supervision, and it was in small blocks of time often at her convenience. The cost of the two methods was comparable. The tape recorder and conference telephone became accepted pieces of equipment in the classroom and once the class or conference began, the mechanical part of communication was forgotten. All participants expressed a high degree of satisfaction with this method of tele-supervision.

In an exploratory study, built on the pilot study, Dalrymple and White (1967) studied the use of tele-supervision in the preparation of home economics education students to answer the question:

How does tele-supervision (supervision of student teachers and interns by telephone supplemented by recording and amplifying equipment) compare with traditional face-to-face supervision in the provision of effective and satisfying guidance and evaluation within reasonable limits of time and money resources (p. 2)?

The analysis of the results of this study are in the process of being completed and will be available after August, 1969 in doctoral dissertation form under the authorship of Alice Post White.
Recommendations made by Dalrymple and White (1965) suggested that all participants needed thorough orientation to the procedures to be followed in the method of tele-supervision, familiarity with the equipment was essential, and the college supervisor needed blocks of time for listening to tapes during which she would not be distracted. It was recommended that use of photographic equipment or video tape recordings would enhance this form of college supervision.

After 1963, microteaching became a fact in teacher education programs. A microteaching situation indicates brief periods of instruction (5 to 10 minutes) taught to five or six high school pupils, which can be recorded on videotape and which receives careful professional and pupil evaluation (Wehmeyer, 1966, p. 4).

Nine teaching skills have been identified and tested at Stanford University. These skills are: (1) establishing set, (2) establishing appropriate frames of reference, (3) achieving closure, (4) using questions effectively, (5) recognizing and obtaining attending behavior, (6) control of participation, (7) providing feedback, (8) employing rewards and punishments, and (9) seeing a model (Bush and Allen, 1964).

Allen and Fortune (1964) summarized the findings of experiments with microteaching in 1963 and 1964 which showed
evidence of the usefulness of microteaching but they felt that the use of grades received in student teaching for measuring the success of microteaching training in the classroom was a poor criterion.

A study to develop the teaching skill of set induction and to determine the kind of training that would be the most productive in developing teaching effectiveness in intern-teachers was undertaken by Aubertine (1964). Those teachers who made the greatest gains from pre to posttest scores on rating instruments were those in the experimental group that received training plus practice and pupil feedback.

Johnson (1966) carried out a similar study using a programmed videotape to train beginning teachers to observe and report intended pupil performances in the classroom. The results showed that the group given prompts, opportunity to practice, and knowledge of how they were doing performed significantly better than any other group.

Olivero (1964) was concerned about substituting video recordings for live observations in teacher education. The results of his study were:

1. Trainees who received feedback changed the behaviors defined as "development of aims" more than trainees who received no feedback.

2. Trainees who had the opportunity to see themselves perform and to receive verbal feedback from supervisors made greater changes.
3. The condition of observing teaching performances from prerecorded video tapes was not significantly superior to live observation of teaching performances in the classroom.

Use of microteaching in the teacher education program at the University of Eastern Illinois has been a fact since 1966. It is used as part of the preservice program during a methods course in the professional sequence (Schaeffer and Stromfirst, 1967). As used with home economics students who made tapes early in the quarter and then at the end of the term, they gave visual evidence of the students' increased competence in performance. The use of video tapes was considered an important supplement in the professional sequence.

A recent study at Texas Technical College investigated the use of microteaching in the development of teaching performance in home economics education (Bell, 1968). The purpose of the study was to aid the students in acquiring the following specific teaching techniques through the process of microteaching: (1) achieving closure, (2) establishing set, (3) framing of reference, (4) reinforcing and (5) questioning.

The results showed that teachers who have had both traditional student teaching experience and microteaching experience are better prepared to be effective teachers in the profession than those who experienced student teaching without the microteaching experience (p. 10).
Several conclusions that Bell (1968) drew from her investigation were:

1. Microteaching contributes to effectiveness in teaching.
2. It is important for teachers to establish a favorable mental set toward microteaching.
3. Microteaching could be used regardless of background (p. 11).

Educational media for use in the improvement of teaching skills seem to be well supported in the studies cited. Recordings lack the quality of immediacy although this problem is being overcome with fast replay action on tape recorders and video recorders and immediate scheduling of conferences. The problem seems to be one of discovering what kind of observation recordings, used in what ways, will enhance the development of teaching skills as an essential functional characteristic of teacher education programs (Schueler and Lesser, 1967).
Media and Their Influence On Observation and Feedback

Media offer only the means and are still a representation but they do widen, to a previously unavailable extent, the basis for observation and analysis of the teaching act (Schueler and Lesser, 1964).

Use of television recordings for purposes of giving feedback to teachers was studied by Acheson (1964) and Olivero (1964). In both studies, supervisory conferences using video tape recordings of the teachers' performance resulted in significantly greater change in teacher behavior than verbal feedback alone. Subsequent studies in the Stanford Education Program (McDonald et. al., 1966; Allen et. al., 1966; Orme, 1966) have shown similar results.

A procedure of putting cues on a second sound track of a video tape was investigated by Allen and Young (1966) for purposes of providing "remote supervision." Results of Young's (1967) study suggested that a contingent focus on a model or subject's own performance is more effective than a noncontingent on each.

As defined by Young (1967):

(1) **Perceptual Modeling** is a video taped episode which exaggerates a specific teaching behavior.

(2) **Symbolic Modeling** is a written description of the
specific teaching behavior to be acquired by the teacher. The description is detailed and includes a rationale for using the behavior.

(3) A model is a constructed teaching-learning situation in a microteaching format (p. 122).

The use of a constructed model allows emphasis on a specific skill.

Johnson, Games, Andersch and Renson (1963) investigated the feedback devices of audio tape recordings, sound-films and a program analyzer to provide feedback to television instructors for the purpose of increasing their teaching effectiveness. There were five groups of instructors in the experiment, each receiving feedback by the following means

1. Audio tape
2. Sound film
3. Audio tape plus program analyzer
4. Sound film plus program analyzer
5. No feedback (control group) (Johnson, et.al., 1963, p. 374).

Each teacher presented four 10 minute lessons. Three teach sessions were on the same topic and the fourth session was a different lesson for purposes of studying the transfer values of different forms of feedback. The program analyzer was a device whereby the viewing audience could record ratings on a five point scale as they observed the lesson.
Frequency distribution of the ratings of teaching effectiveness for each 45 second segment of the lesson was recorded automatically. The results indicated:

1. The special devices for feedback did not improve teaching effectiveness as measured by the rating scales applied by either student groups or peer groups.

2. The control group did not improve significantly.

3. Teachers using the program analyzer lost from the first teach session to the second.

4. Those using the program analyzer improved significantly from the second teach session to the third session but did not differ significantly (Johnson, et. al., 1963, p. 375).

Two suggestions were made: (1) that there is a need for a longer period of training employing the program analyzer as a means of feedback and (2) that a more informative type of feedback than one giving such overall, unexplained evaluation such as "very poor" is worth studying.

Two studies in counselor education have implications for observation and feedback as influenced by media. Reddy (1969) studied immediate and delayed feedback in the development of empathy in counselor films. Six simulated psychotherapy films were rated by students in the counselor education program. The three groups were:

1. Immediate feedback via earphone.
2. Immediate feedback at the end of the film.
The students in group one responded more completely than those in group two and three. They "didn't notice the earplug after the first session." "Knowing what the supervisor wanted made it easier for them to rate the films" (Reddy, 1963, p. 179). They showed a significantly higher level of empathy than the delayed feedback group. "The subjects' level of motivation and concentration seemed to be the important factor in the immediate feedback group" (Reddy, 1963, p. 180).

In another counselor education study the concern was with student reaction to the use of video taped instruction on a procedure for administering the Wechsler Intelligence Scale for Children. The entire demonstration was a 30 minute tape (Reilley, 1969, p. 233). Results indicated that students' reaction was generally favorable, the presentation was helpful and interesting. The advantages were the replay and use of audio or comments of the instructor. Reilley (1969) felt that more could be done in counselor education in using video tapes for the development of skills such as testing.

A study of the effects of feedback on communication was undertaken by Leavitt and Mueller (1951) that has implications for supervisory styles in student teacher-college supervisor conferences. The purpose in their study was to try to test the effects of feedback in certain kinds of
A to B communication. Free feedback was defined as: "both sender and receiver can feel, correctly, more confident that they have respectively sent and received accurately" (p. 401). Free feedback is accompanied by high confidence and amity. Zero feedback is accompanied by low confidence and hostility.

Instructor's confidence is lower than the students' confidence. We suggest the instructor can be satisfied only by knowing that the receiver is getting the proper information (Leavitt and Mueller, 1951, p. 409).

Acheson (1964) was concerned about the application of video tape recordings to university supervisory conferences during the field practices of intern teachers in secondary schools. His sample was not large enough for significant findings. He did discover that:

.....the amount of delay may be a factor in the degree of objectivity a teacher exhibits in observing his own performance. Teachers who saw playback immediately expressed more emotional involvement than those who waited a day or more (p. 41).

These new media do offer college supervisors alternative methods for observing student teachers as well as devices for providing immediate feedback about the students' teaching performance. The use of audio and audio-visual media allow for an emphasis on student teacher self-evaluation, yet the studies on modeling and use of video tapes during supervisory conferences show that a contingent focus is most effective in bringing about desired behavior change.
Media and Their Role or Function In College Supervision

What has been the relationship of the role of media to the function of the college supervisor in student teaching programs? How can the use of the new media better serve the college supervisors in their task of directing student teachers during the period when they are engaged in the guidance and direction of the learning of others?

At the University of Illinois, Perlberg (1969) was responsible for designing two pilot studies to explore the potential of portable video recorders and microteaching techniques to improve instruction in vocational technical programs. The investigation, concerned with training and supervising student teachers, has application for college supervisors. In this study the concern was with (1) aiding the student teacher during the induction into the student teaching program, (2) using the portable videotape recorder during student teaching by the cooperating teacher and (3) using video tapes for the college supervisor to analyze and thus reduce her visits to the classroom as well as the use of the telephone for supervisory conferences. The pilot study was designed to collect qualitative data. Perlberg (1969) felt that "the college supervisor needed to be well trained for this role and needed to approve and see the benefits of video tape recordings" (p. 13). It was suggested
that the college supervisor should be taped and then analyze those tapes so that he would have experienced the emotions of self-confrontation. Experimentation with supervising telephone conferences based on tapes sent to the college supervisor were limited due to lack of equipment.

As was indicated earlier the pilot studies done at the University of Wisconsin (Dalrymple and White, 1965; 1967) showed positive results in the use of the "hands free" phone set up for supervisory conferences.

Allen and Ryan (1969), after extensive work with microteaching and the use of the video tape recorder to analyze teaching behavior, advanced a different and potentially more effective procedure for supervision; namely, the supervisor should concentrate on one or two suggestions during the supervisory session. This adds the dimension of focus to the conferences and gives the student specific goals to work toward prior to his next supervisory session.

In 1963, Fuller and Veldman (1963) studied the influences of tape recorders on prospective teachers' self-evaluation of their teaching performances. Their study showed that:

When female teaching interns (N=22) tape recorded two teaching performances with intervening instructor and peer feedback, rated themselves at three points, and were rated by peers, supervisors, and master teachers, self-ratings increased and discrepancies between self-ratings and ratings by the other groups decreased significantly. When a second group (N=18)
received no feedback except tape listening neither self-ratings nor discrepancies between self- and other ratings changed significantly (p. 389).

Once again, feedback with a contingent focus has been illustrated as being more useful for improvement in self-evaluation than self-ratings alone or no feedback. Another study that stressed the use of the tape recorder to develop instructional expertise was carried out by Cooper (1967). When the tape recorder is used to provide teaching competence, it tends to:

1. Increase the amount of responsibility on the student teacher for his own improvement.

2. Make it easier for the college supervisor to objectively point up teaching weaknesses to the student teacher.

3. Allow for the development of a tape library ("real teaching situations") for use by student teachers (Cooper, 1967, p. 1072).

The educative process becomes more of a guiding experience on the part of the college supervisor rather than a telling one. Cooper (1967) postulated that "properly evaluated experiences become learning and precipitate individuals' development" (p. 1072).

In Acheson's (1964) study concerned with the use of video recordings for giving feedback to student teachers during their supervisory conferences, attention to the way in which a recording or feedback operation was introduced and conducted was deemed most important. Both supervisors
in Acheson's (1964) study agreed that the audio-visual playback contributed to a productive conference. The results from this investigation indicated that:

Audio-visual recordings and feedback are feasible and produce effects in supervisory conferences with novice teachers by helping them to analyze and change their behavior during teaching performances. These performances can be recorded either in simulation pre-service practice or in actual classroom field practice. The addition of television recordings to both direct and indirect styles of supervisory conferences increased to a limited degree the supervisor's ability to change specific teacher behavior as observed in a subsequent recording (Acheson, 1964, p. 45).

Bruner (1964) points to two phenomena which bear on the effective use of feedback from audio-visual records and from observer-supervisors.

...where audio-visual records are collected or played back in an atmosphere which arouses anxiety or invites defensiveness, the instructional efforts of the supervisor may not be expected to result in desirable changes in teacher behavior (pp. 316-317).

The use of an integrated feedback system designed to enable student teachers to analyze their teaching, set goals for improvements and monitor their own progress was examined by Joyce (1967). The elements comprising the feedback system were: (1) use of a system for behavioral analyses of teaching, (2) use of films, (3) use of audio tapes and (4) use of video tapes. Conclusions drawn were:

Staff utilization should include more extensive training of supervisors for feedback roles. The feedback system can begin earlier in the teacher training program if it is carefully monitored. There was a
tendency for students, cooperating teachers and supervisors to discuss hypothetical situations rather than filmed or taped teaching episodes (Joyce, 1967, p. 90).

The teaching techniques received the greatest concentration during the conferences. Next in importance was discussion of classroom procedures and effectiveness in classroom discipline. "The only topic that was positively correlated with teaching effectiveness was discipline but the correlation was not high" (Joyce, 1967, p. 33). One of the advantages of the feedback system is that it seemed to compel attention to reality. This study showed that the frequency of supervision did not affect the growth made or difficulties encountered by the student teacher.

In reviewing the role and function of media in relation to college supervision, one can draw several tentative conclusions, perhaps:

1. Media are "here to stay" and have become accepted for analyzing teaching behavior in teacher education programs.

2. The use of media can enhance observation techniques and provide more realistic feedback to an individual about his performance.

3. Student teachers, although educated to become proficient in use of media for self-evaluation, still need the guidance, direction and understand-
ing of supervisors during the student teaching experience.

4. Media have been shown to increase the effectiveness of supervisory conferences by allowing the participants to start from a common understanding and add focus to the discussion.

5. The use of a systems approach such as microteaching (breaking a complex activity into elements, involvement, practice and active participation) increases effective learning.

6. An integrated feedback system would allow reduction of on-the-spot visitations by supervisors but, at the same time, creates the necessity for careful role definition and training for roles, especially with respect to faculty development.

College supervision is a key facet of teacher education programs which lends itself to radical revamping now that media resources are available. A wide range of supervisory strategies provide alternatives for individualizing instruction for each student teacher in her specific classroom situation. The college supervisor can choose a supervisory style such as an indirect focused approach, a direct approach or a completely non-directive strategy and then select the media that would be most effective for the particular teacher being supervised. Media in college supervision are
potentially promising means for improving teacher education when used for well-defined objectives.
CHAPTER III

METHODS AND PROCEDURES

The study was designed to determine the feasibility of using remote methods for supervising home economics student teachers during their student teaching experience. The study was possible because of the cooperation between the School of Home Economics at The Ohio State University and The Center for Leadership and Development in Vocational and Technical Education located on The Ohio State University campus.

How could this feasibility be determined? It was decided to look at two specific aspects of the student teachers' progress during the student teaching experience to determine the feasibility of remote supervision. The first was her change in the specific teaching behavior: giving a demonstration of a manipulative skill. The second was her expressed feelings about her confidence in her ability to teach, both before and after the student teaching experience. Were the major participants (college supervisors, student teachers and supervising teachers) satisfied with the type of supervision in which they were involved? This was the third specific concern.
The major activities of the study were divided into three phases: (1) planning and development, the pre-active phase (2) data collection or active phase and (3) analysis of data, the post active phase. The methods and procedures of the study are presented to the reader relative to these three phases in chronological order.

Pre-Active Phase

The planning period for this study was carried out from July 1968 to November 1968. During this phase, the specifics of the three supervisory methods (face-to-face, audio-phone and video-phone) to be tested were clarified. Descriptions of each method as well as an illustrative chart were developed for the participants (Appendix C). Factors unique to each supervisory treatment were specified.

Regardless of supervisory method, the teaching skill receiving emphasis during this study was that of presenting a demonstration of a manipulative skill. Each student teacher was to use this skill during the nine weeks of the student teaching experience a total of four times. Two of these four times were for analysis by the student teacher and supervising teacher. The other two times were for specific analysis by the triad. At these times, the skill was to be evaluated by all participants on Critique Form I: Demonstrating a Manipulative Skill (Appendix D).
Items on these critique forms were used as a basis for discussion during supervisory conferences. At the conclusion of these supervisory conferences the college supervisor gave the student teacher a maximum of three suggestions to serve as a basis for further improvement.

The college supervisors kept records of time spent for planning, observation, and conferences. Records were also kept regarding the expenses incurred by all participants (Appendix G).

Permission was asked and graciously granted by the administrators at the cooperating student teaching centers (public schools in Ohio) for their schools, supervising teachers, and home economics pupils to participate in the study (Appendix A).

Sample

The sample for this study included the home economics education students at The Ohio State University who were involved in student teaching in Ohio public schools during Winter Quarter, 1969. There were 36 students involved in this field experience. Each of the 36 student teachers was assigned to a public school and particular supervising teacher after having designated three preferences for a student teaching center. This assignment was made following an individual conference with a college supervisor.
In one instance, one supervising teacher was responsible for two students. In two situations, the student teacher worked with two supervising teachers for breadth of experience, although one was designated as having the major responsibility for the student's field experience. The final assignments resulted in the following conditions:

1. Three students were assigned to one school.
2. Two students were assigned to each of three schools.
3. Twenty-seven students were assigned to separate schools.

Therefore, involvement of public schools and supervising teachers brought the totals to 36 student teachers, 35 supervising teachers and 31 public schools.

All the students had completed a home economics methods course and all had similar educational experiences prior to student teaching such as observation of real and videotaped class instruction and use of and involvement with making and viewing videotapes of themselves.

For the most part the sample size was pre-determined by the number of students involved in the student teaching experience during Winter Quarter, 1969. Of the 37 students, one was eliminated since she was the only person not enrolled in the methods course during the previous quarter. She had already completed her methods course and was living off campus. Since she was a member of the group involved in student teaching during Winter Quarter she was
randomly assigned to a treatment group although her scores were not included in the final analysis.

Research Design

A discussion and illustration of the experimental design serves the purpose of providing a framework within which the research questions can be answered. The statistical design of the study allows for interpretation of the comparisons made in the experimental design using statistical tests of significance.

Experimental Design

The type of experimental design used in determining the effectiveness of alternative methods of supervision of student teachers was a Pretest-Posttest Control Group Design, and is based upon experimental Design 4 as defined by Campbell and Stanley (1966. pp 13-24): (Figure 1).

\[
\begin{array}{ccc}
R & 0_1 & T_1 & 0_2 \\
R & 0_3 & T_2 & 0_4 \\
R & 0_5 & T_3 & 0_6 \\
\end{array}
\]

Figure 1.—Schematic of the Experimental Design

T represents the exposure of a group of student teachers to an experimental kind of supervision as an independent
variable, the effects of which are to be measured; 0 refers
to some process of observation or measurement; the T's and
0's in a given row are applied to the same specific persons.
The left-to-right dimensions indicate the temporal order,
and T's and 0's vertical to one another are simultaneous.
R indicates random assignment of student teaching centers
(and thus student teachers) to treatment groups. Each T
indicates the supervisory treatment group as studied in
this experiment.

This type of experimental design requires that the
researcher provide for randomization, administer a pretest
to all subjects and administer a posttest to the same sub-
jects. The comparison of the remote methods of supervision
(T₂ and T₃ - experimental) with the conventional method of
supervision (T₁ - control) means that the comparison is
actually with the specific activities of the control group
which have filled the time period corresponding to that
in which the experimental groups receive the T (Campbell
and Stanley, 1963).

The experimental design to determine the feasibility
of alternative methods of supervision of student teachers
in terms of improvement of a specific teaching behavior is
diagrammed in Figure 2.
Figure 2. — The Experimental Design

<table>
<thead>
<tr>
<th>Sample</th>
<th>Blocking Variable</th>
<th>Random Assignment</th>
<th>Co-variable</th>
<th>Supervisory Treatment Group</th>
<th>Supervisory Treatment Method</th>
<th>Posttest Score on Teaching Skill, Confidence, Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home econ. student teachers winter quarter 1969 (36)</td>
<td>Pretest score on confidence skill 0₁</td>
<td>Assignment of student teachers to supervisory treatment groups R</td>
<td>Pretest score on teaching skill 0₁</td>
<td>T₁ (12)</td>
<td>FACE-TO-FACE Conventional method of college supervision</td>
<td>Posttest score on teaching skill, confidence, satisfaction 0₂</td>
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<td>T₂ (12)</td>
<td>AUDIO-PHONE Remote college supervision and phone conferences</td>
<td>Posttest score on teaching skill, confidence satisfaction</td>
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<td></td>
<td>T₃ (12)</td>
<td>VIDEO-PHONE Remote college supervision and phone conferences</td>
<td>Posttest score on teaching skill, confidence, satisfaction 0₂</td>
</tr>
</tbody>
</table>
The basic design was expanded by use of a blocking variable. The student teachers responded to a pretest Confidence Scale. Based on the scores received on this pretest, student teachers were assigned to a low, medium, or high confidence level group. This "confidence" was the student teachers' expressed feelings about their "confidence in their ability to teach." In the analysis of data this will be referred to as teaching confidence. Then, the subjects were randomly assigned to supervisory treatment groups.

Randomization assured unbiased assignment of experimental subjects to treatment groups. Hopefully, the sample size 36 gained some statistical precision by assigning students to a high, medium and low confidence level based on scores received on the pretest Confidence Scale and then randomly being assigned to the three supervisory treatment groups (Figure 3).

<table>
<thead>
<tr>
<th>Confidence Level</th>
<th>Treatment 1</th>
<th>Treatment 2</th>
<th>Treatment 3</th>
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<tr>
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<td>Face-to-Face</td>
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<td>SUBJECT TOTALS</td>
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Figure 3. --Random Assignment of Student Teachers by Confidence Level to Treatment Group
The college supervisor was randomly assigned to supervisory treatment methods and to student teachers. There were three college supervisors, two on full-time appointment and one on a half-time appointment. Each of the full-time college supervisors supervised 15 students, 5 in each treatment group. The half-time college supervisor supervised 6 students, 2 in each treatment group (Figure 4).

<table>
<thead>
<tr>
<th>Treatment 1</th>
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<td>Face-to-Face</td>
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Figure 4.—Random Assignment of College Supervisors to Treatment Groups.

College supervisors were nested across all treatment groups.

The independent variables in this study were:

1. College Supervisors
2. Supervisory Treatment Groups
3. Levels of Confidence in Ability to Teach.

The response measurements made in the experimental units constituted the dependent variables. The dependent
variables included posttest scores on a Confidence Scale, posttest scores on Critique Form II: Demonstrating a Manipulative Skill and post scores on a Satisfaction Scale (Appendix D).

The research design was set up to provide the framework for testing the relations among variables. Research questions about the experiment were answered based on this design.

This study involved three independent variables, each variable having three levels. Thus, not only the singular effect of the variable was considered, but also the interaction of these variables. The research design for this study then was a 3 x 3 factorial design (Figure 5).
Criterion Measure: Demonstration of a Manipulative Skill

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T: treatments (method of supervision)

C: confidence level (L=low; M=medium; H=high)

S: subjects (home economics student teachers)

0: repeated measure of skill (pre-posttest)

Figure 5.—Factorial 3x3 Design: Illustration Pre-Posttest Measures of Teaching Behavior
Statistical Design

In their discussion of Design 4, Campbell and Stanley (1966) suggested that even though the design is the most widely used, the tests of significance used are often wrong, incomplete or inappropriate.

The most widely used acceptable test is to compute for each group pretest-posttest gain scores and to compute a $t$ between experimental and control groups on these gain scores. Randomized "blocking" or "leveling" on pretest scores and the analysis of covariance with pretest scores as the covariate are usually preferable to simple gain-score comparisons (p. 23).

It was determined that the data fit the assumptions of analysis of covariance and would be appropriate statistical design.

Measurement

Three instruments were used in this experiment for collection of data.

Vlcek's Confidence Scale (1965) was used as a pretest-posttest measure of the student teacher's "confidence in her ability to teach." The scores on the pretest were used as a blocking variable within the supervisory treatment groups.

To determine all participants' expressed feelings of satisfaction or dissatisfaction with specific supervisory treatments, a Satisfaction Scale was developed which was
an adaptation of a Q-Sort for Satisfaction with Supervision devised by Dalrymple and White (1965) for pilot and feasibility studies on tele-supervision at the University of Wisconsin.

Critique Form II: Demonstrating a Manipulative Skill developed during earlier phases of the microteaching project at The Center for Vocational and Technical Education (Cotrell and Doty, n.d.), was used to measure the effectiveness of a specific teaching skill.

Confidence Scale

A Confidence Scale was used for two purposes. The scores that each student received on this pretest Confidence Scale were used as a blocking variable in setting up the experimental design. The second purpose for use of the Confidence Scale was to determine if the prospective student teacher's level of confidence in her ability to teach would increase during the period of student teaching (9 weeks) in which she was involved with a specific method of supervision.

A Confidence Scale developed by Vlcek (1965) was used with one minor adaptation in the wording of one statement. In Vlcek's study Statement 7 was worded "I am confident that I understand the problems of upper elementary children." In the adaptation, Statement 7 was worded "I am confident
that I understand the problems of the students I teach."
The use of the Confidence Scale in Vlcek's study was limited to the measurement of the prospective student teacher's confidence in skills which were experienced in coping with the simulated problem situations that were investigated in his study. A nine-question four-point scale similar to a Likert Scale was used.

Bogniard (1968) used this same Confidence Scale as a pretest-posttest measure. In both Bogniard's and Vlcek's studies, there was a significant degree of change in the student teachers' confidence in their ability to teach at the .01 level of confidence.

It was reported in the Forty-Third Yearbook of the Association for Student Teaching (1964) that one of the specific anxieties of student teachers was their capability to discipline the class. To cope with problems and keep the teaching situation under control was also a strongly felt need. In many earlier evaluation studies of effective teaching it was noted that the teacher who could control her class was an effective teacher.

Since Vlcek's Confidence Scale was concerned with handling discipline problems and coping with various changes in the teaching situation such as working with small groups versus large groups, it was felt that a measure of the change in a student teacher's confidence in her ability to
teach under three specific supervisory methods as measured in the "real teaching situation" would be appropriate for this study.

The students responded to the pretest Confidence Scale on November 11th during a class session of their home economics education methods course prior to the beginning of their student teaching. The Confidence Scale as a post-test measure was administered during a final on-campus student teachers' meeting on March 7, 1969, the day following completion of their student teaching field experience.

Satisfaction Scale

In order to test the hypotheses concerning expressed satisfaction with the type of college supervision in which each participant of the study was involved, it was decided to adapt Dalrymple and White's (1965) Q-Sort for Perception of Satisfaction in Supervision.

According to Dalrymple and White (1965) the Q-Sort for Perception of Satisfaction in Supervision collected quantitative data from each participating cooperating teacher, supervisor and student teacher or intern relative to the satisfactions she perceived in the particular supervisory procedure she experienced. Statements in this Q-Sort were suggested or inspired by several identifiable professional sources and were centered around basic categories developed for a "Critical Incidents Study," a Cooperative
Research Project in Supervision of Student Teachers (Dirks, et al., 1967). The decision to use Q-Sort devices in the Wisconsin studies was based upon consultation with Dr. Donald Miller of the University of Wisconsin Instructional Research Laboratory. The original Q-Sort was redesigned as a paper and pencil rating scale for the present study. Just as the Q-Sort had been written in the language of each participant, so too the rating scale was written for the college supervisor, the supervising teacher and the student teacher.

The 42 statements in the original Q-Sort were grouped into the following five categories.

1. Security - 3 negative statements and 4 positive statements
2. Evaluation - 5 positive statements and 1 negative statement
3. Growth - 7 positive statements
4. Relationships - 6 positive statements and 1 negative statement
5. Problems - 2 positive statements and 3 negative statements

A panel discussion was held to evaluate each of these items in terms of relevance to this particular study, clarity of expression, and whether some items might be repetitious. Care was taken to keep the number of items in each category fairly equal. This discussion group consisted of the researcher, a master teacher, a college supervisor, and a teacher educator. The consensus on 32 final items to be
included was 20 positive and 12 negative. In order to reduce response bias, it was decided to have an equal number of positive and negative statements. Therefore, 8 of the statements were changed to the negative form. The final 16 positive and 16 negative statements concerning satisfaction of supervisory method were listed randomly and the directions for rating this scale were developed (Appendix D).

Working copies of the scale were typed and these were "pilot tested" by having them rated by a former student teacher, a supervising teacher and a college supervisor. This pilot test was used to determine the clarity of the instructions, the time involved in rating the scale, and concurrence on each statement as to whether it was stated positively or negatively. There was initial complete agreement by all three persons on 30 items and two items were altered. The average time required to check the Satisfaction Scale was 12 minutes.

Incorporating the suggestions from the pilot test, the final copies of the Satisfaction Scale were typed and color coded; green for the student teacher, blue for the supervising teacher and white for the college supervisor (Appendix D). A questionnaire section containing a series of three open end questions was added to each Satisfaction Scale (Appendix D).

The Satisfaction Scale was used as a posttest only.
This was given to the student teachers the day after they completed their student teaching while they were at a meeting on campus. At this same time the Satisfaction Scale was given to the college supervisors who rated each of the three methods of supervision. It was mailed to the supervising teachers and return was requested within a two week period.

Critique Form II: Demonstrating a Manipulative Skill

For the data needed to determine effectiveness of remote supervision in terms of improvement of a teaching skill, the instrument used was the Critique Form II: Demonstrating a Manipulative Skill, a revised form of Critique Form I which had been developed at The Center for Vocational and Technical Education for earlier phases of the Micro-Teaching Project (Cotrell and Doty, n.d.). This instrument was designed to collect qualitative as well as quantitative data. The factors to be checked were limited to relatively overt qualities and were of observable behavior. In addition to the factor or trait to be rated, a definition or example was given to increase uniformity of rater's interpretation. Seven factors in an effective demonstration of a manipulative skill were considered. Each factor was rated qualitatively 1-5 from very poor to excellent. The quantitative scale measured whether a factor was or was not
accomplished and was rated 0 for not accomplished, 1 for accomplished. Only the qualitative scale was used in reporting the results of this study. This scale met most of the criteria for a good instrument.

Student Teacher Orientation Session

The purpose of the research study was discussed with the student teachers during a regular methods class. At this time they were given instructions for making a video tape in a micro-teaching setting of a 5-10 minute lesson that was to be a demonstration of a manipulative skill. They were told at this time the supervisory treatment group to which they had been randomly assigned. One week later, the student teachers completed a Confidence Scale (Vlcek, 1965) during a methods class session (Appendix D).

Equipment Training Session for Student Teachers

A two-hour training session accommodating four student teachers at a time was organized to acquaint those students in the video-phone supervisory treatment group with the Shibaden Video Recording System (Appendix B). The technical assistant demonstrated the recorder, camera, and the electrical hook up system as well as the procedure for recording and playback. In turn, each student teacher had an opportunity to set up the system, record and playback. Later, at the school, the student teachers were to demonstrate the
use of the Shibaden Video Recording System to the supervising teachers. A technician was on call throughout the research project to be of assistance to all participants during the active phase of the study.

Research Orientation Meeting

An orientation session was planned for the administrators, supervising teachers, college supervisors and research staff (Appendix A). Specific activities for the all-day type workshop were designated on the agenda (Appendix A). One of the main purposes of this orientation session was to acquaint the administrators with the study. Only two superintendents attended this meeting. Several supervising teachers were absent and therefore two additional orientation sessions were held.

Active Phase

The active phase began on December 4 when the student teachers made a pretest video tape and ended on March 7 when they recorded a posttest video tape.

Pre-Video Taping Session

Prior to the beginning of student teaching, all student teachers made a "pre-video tape" of a 5-10 minute lesson in a micro-teaching setting. This lesson was a demonstration of a manipulative skill. Two simulated
classrooms with 4-6 high school students "acting" as pupils were used for the taping of these lessons. The taping session was on December 4, 1968. Two additional taping sessions were provided for those student teachers who were absent on that date.

After the pre-test video tape sessions were completed the student teachers received copies of the instrument Critique Form I: Demonstrating a Manipulative Skill to use as an instructional resource during student teaching so they would be aware of the factors considered important in the performance of an effective demonstration of a manipulative skill.

**Student Teaching Experience**

The Winter Quarter student teaching program was in effect from January 6, 1969 to March 7, 1969. All student teachers reported to the public schools to which they were assigned on January 6th. Each student teacher was to be supervised from the college by one of the following three methods: (1) face-to-face, (2) audio-phone, or (3) video-phone supervision. Each student teacher had been assigned one of three college supervisors. The supervisory treatment methods had common and unique elements.
Face-to-Face Supervision

The college supervisor made the usual three supervisory contacts in the school to observe and advise the student teacher. The contacts were to follow the pattern used in the past. During the supervisory contact, conferences were held with the student teacher and supervising teacher. Two of these visits included observing the student teacher giving a demonstration of a manipulative skill. This skill was critiqued by the triad, using Critique Form I: Demonstrating a Manipulative Skill and then discussed during the conference. A maximum of 3 suggestions were made to the student teacher by the college supervisor.

Audio-Phone Supervision

The college supervisor conferred with the student teacher and the supervising teacher by phone and had contact with the student teacher by means of audio tapes that the student teacher recorded and mailed to the college supervisor.

Five audio tapes of lessons at least fifteen minutes in length were prepared by the student teacher and mailed to the college supervisor. Two of these five tapes were to be of lessons which included demonstrating a manipulative skill. After each of these two taped lessons, the super-

vising teacher and student teacher replayed the tape and then, independently, completed Critique Form I. The audio tape was then mailed to the college supervisor on campus.

Upon receiving the audio tape, the college supervisor listened to the tape and then evaluated the demonstration of a manipulative skill using Critique Form I. She then noted suggestions for the student teacher which were to be discussed during the supervisory phone conference.

The college supervisor called the student teacher and supervising teacher for a 3-way supervisory phone conference in which Critique Form I, as checked by the members of the triad, was used as a basis for discussion.

Audio Tape Recorder

Each student teacher used the audio tape recorder owned by her school. The researcher supplied each student teacher with three tapes to allow for mailing time lapse between recording sessions. The student teacher and/or supervising teacher took the responsibility for mailing the tapes to the college supervisor according to a pre-arranged schedule.

Video-Phone Supervision

In this method of supervision, the college supervisor conferred with the student teacher and supervising teacher
by phone and observed the student teacher's teaching by means of video-tape recordings that were made by the student teacher and supervising teacher and mailed to the college supervisor.

Five video-tape recordings of lessons at least 15 minutes in length were made. Two of the video-tape recordings contained a demonstration of a manipulative skill. After each of these two lessons, the student teacher and supervising teacher replayed the tape and independently completed Critique Form I. The video-tape was then mailed to the college supervisor on campus.

After receiving the tape, the college supervisor viewed it, evaluated it and completed Critique Form I. Arrangements were made for a supervisory phone conference in which all members of the triad discussed the items on the Critique Form I. Suggestions (maximum of three) were made to the student teacher for improvement.

**Video Tape Recording Equipment**

Schools in near proximity shared a video tape recording system. Those schools in outlying districts and who were farther than 35 miles to the nearest video tape recording system, had a system of their own. The video tape recording system included the following items:
1. Shibaden Video Taperecorder (SV-700)
2. Tripod
3. CCTV Camera and Patch Cord (Solid State: Model HV-15)
4. Extension Cord
5. Transistor Television Portable Monitor and Patch Cord (Model TU-9US: 6" x 7" Picture)
6. Microphone (10 K 52)
7. Three Half Inch Video Tapes (Memorex: 1/2" x 1200')

Supervisory Phone Conferences

For the two remote supervisory treatment groups, the conferences were held via phone. Each school involved in these two treatment groups received a Fanon phone amplifier which consisted of a cradle for the hand set of the phone and a speaker (Appendix B). The incoming voice of the person talking was amplified and by having the receiver of the phone on the amplifier cradle, it allowed the participants in the supervisory conference to use their hands for referring to particular evaluation sheets or written materials and to take notes when needed. Phone conferences allowed for 3-way supervisory conferences as well as 2-way conferences.

A maximum of ten phone calls of 1/2 hour or less were allowed for each student teacher. This was designed to match the approximated time the college supervisor would spend involved in 2 or 3-way conferences during 3 face-to-
face contacts.

Five of these conference calls were for the expressed purpose of discussing the audio and video tapes that had been mailed to and evaluated by the college supervisor. The other calls were related to discussion of other types of lessons and/or other problems of concern to the student teacher. Calls were initiated by any member of the teaching triad. Calls were to be 2-way, the supervising teacher and college supervisor or student teacher and college supervisor or 3-way, the teaching triad. The total supervisory phone conference time was not to exceed five hours.

Scheduling of the phone conferences was based on the class schedule of the student teacher and supervising teacher in the public school.

Post Confidence Scale, Satisfaction Scale, and Post Video Tape Session

On March 7, 1969, the last day of the student teaching program, all students returned to a meeting on campus. At this time they responded to a post Confidence Scale and a Satisfaction Scale (Appendix D). Later in the day, all student teachers recorded a post video tape on a demonstration of a manipulative skill. Again, this video tape was recorded in a micro-teaching set-up using public high school students as the pupils. A make-up session was held at a later date for one student.
Post Active Phase

The post active phase began when student teaching ended March 7 and began with the process of selecting a panel of judges to rate the pre and post video tapes.

Panel of Judges

The procedure used to determine the number of judges for a panel of evaluators involved a review of related literature, and personal interviews with seven professional persons.

Studies have shown repeatedly that the between rater reliability of conventional procedures is low. A number of studies were examined and it was concluded that the correlation between raters by two independent raters for the conventional type of rating scale is about .55 (Thorndike, 1955, p. 362). It is possible to get independent ratings from each potential rater and pool these into a composite rating. "Error components will be independent and tend to cancel out. Thus, theoretically we could achieve any needed level of reliability in our appraisal merely by increasing the number of raters" (Thorndike, 1955, p. 378). Harris (1960) stated that:
Reliability of ratings may be increased by pooling the judgments of a number of persons, and validity with objective definition of the trait or characteristic rated. The number of judgments that should be pooled (averaged) varies according to the degree of reliability sought and the nature of the trait rated. For many traits three or more independent ratings should be obtained (p. 809).

Other recommendations suggested anywhere from "not less than three" to 22 judges.

As Block (1961) posed the question: "Given, then, a reasonable method of combining judge merits, what may be expected of this consensus?" One characteristic of consensus scores is that they are invariably highly reliable if based upon more than two or three judges. The opinions given during the interviews ranged from a choice of two raters (2 interviewees) to three or more raters by the others. Therefore, a panel of three judges was chosen.

Criteria for Selection of the Panel Members

The following criteria were determined to be used as the basis for selection of panel members:

- **Teaching Experience** - minimum of 3 years
- **Subject Matter Field** - can be varied
- **Supervision Experience** - can be in the form of having been a cooperating teacher, a college supervisor, or a general supervisor in the secondary schools.
Teacher Education - courses or experience in the field

Video Tape Recording - some experience with this educational medium in teacher education, if possible.

Characteristics of the panel members chosen for this study varied in terms of teaching, supervision and video experiences (Figure 6).

<table>
<thead>
<tr>
<th>Panel Members</th>
<th>Teaching Experience</th>
<th>Supervisory Experience</th>
<th>Teacher Education</th>
<th>Video Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5 years</td>
<td>1 year</td>
<td>Courses + taught 22 semester + experience</td>
<td>Micro-teaching</td>
</tr>
<tr>
<td>2</td>
<td>18.5 years</td>
<td>8.5 years</td>
<td>Courses - supervising student teachers</td>
<td>Minor contact</td>
</tr>
<tr>
<td>3</td>
<td>14 years</td>
<td>30 years</td>
<td>Admin. experience; State level</td>
<td>Previous panel member</td>
</tr>
<tr>
<td>Av.</td>
<td>3/27.5</td>
<td>3/39.5</td>
<td>++</td>
<td>+</td>
</tr>
</tbody>
</table>

Figure 6.--Characteristics of Panel Members

It was approximated that it would take the panel members 12 hours to evaluate the pre and post video-tape recordings of the student teachers (72 tapes) on the technique of demonstrating a manipulative skill. Since this
study was part of a larger research project, the panel was trained to evaluate three teaching skills: (1) introducing a lesson (2) demonstrating a manipulative skill and (3) questioning according to a specific schedule. Only performance on the demonstration of a manipulative skill is reported in this study. The findings concerning the other skills will be reported in the Center for Vocational and Technical Education Report (in process).
Training Session for Panel of Judges

The training session time needed for achieving good rater reliability for one teaching skill was approximately three hours. Including some preliminary activities, this was accomplished in two sessions. The first session included introduction of each panel member with time allowed for the panel members to become acquainted. Information sheets on each panel member's educational and experiential background were completed. This was followed by discussion on the following topics:

1. Discussion of the Study - Remote Supervision
2. Use of Video-Tape Recordings for Improving Teaching Skills
3. Specific Teaching Skills Involved in the Study
4. The Purpose of the Panel

Discussion followed the presentation of items one through four.

The panel members reviewed the critique forms and viewed a video-taped lesson so they would be able to comprehend what constituted a "5-minute lesson." The same tape was replayed and the panel members evaluated the tape. The purpose was for a later comparison between rater reliability before and after the training session.
The procedure followed during the training session of the panel of raters is included in the following seven steps:

Training Session on Demonstrating a Manipulative Skill

Step 1. Read over the critique form. Discussed each of the seven factors on the form.

Step 2. Viewed an Illustration Model.

This illustration model was a segment from a videotaped 5-minute lesson portion of tape showing the teacher presenting a demonstration to a microteaching class.

Step 3. Panel members rated the teacher's performance on Critique From II: Demonstrating a Manipulative Skill (Appendix E).

Step 4. Panel members compared and discussed their ratings among themselves and with the researcher looking again at the video-tape for as many times as needed.

Step 5. A composite rating of an Illustrative Model Tape (Appendix E) that was evaluated by previous panel members (college supervisors and teacher educators) was given to each panel member.

Step 6. Each panel member compared his ratings with the composite rating.

Step 7. Discussion followed and ambiguous points were clarified.

The above procedure was followed using two additional Illustration Model Tapes (Appendix E). Next, two other demonstration lessons were evaluated with the rating instrument followed by re-viewing and discussion periods. At this point a video-taped lesson was viewed for purposes of
checking on rater reliability to see if the panel members were ready to begin evaluating the tapes of the study. From a visual check and percentage count, rater reliability at this point was above 70% so the panel members began reviewing the pre and post tapes of the study (Table 1).

Table 1

Inter Rater Reliability on Correlation Coefficients

<table>
<thead>
<tr>
<th>Panel Members</th>
<th>Pre-Training Session</th>
<th>Post-Training Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>rka</td>
<td>rka</td>
<td></td>
</tr>
<tr>
<td>1 + 2 + 3</td>
<td>.49</td>
<td>.82</td>
</tr>
</tbody>
</table>

^_rka - adjustments for differences in frame of reference

Video Tape Rating Sessions

All three panel members viewed the pre and post tapes at the same time. The tapes were viewed from a random ordering and the raters were not told that these were "pretest and posttest video tapes" of the student teachers' performance. Each checked Critique Form II: Demonstrating a Manipulative Skill independently.

Critique Form II was a revised Critique Form I format only for use by the panel or raters to evaluate the pre and post video tapes of the student teachers (Appendix E).
Adding answer boxes in place of columns simplified recording the degree of accomplishment. Typing the items under How Well Accomplished in a different arrangement so the rater would not have to turn the page and managing to compress the typing so as to fit on a single page aided in simplifying the raters' use of this instrument.

Viewing sessions were limited to 2 1/2 hours with a rest period or coffee break in order to cut down on the element of fatigue. The schedule for viewing the tapes was planned one week at a time and took into consideration the individual schedules of each panel member. Viewing sessions were held at the convenience of the panel members.

Upon the completion of viewing and critiquing all 72 tapes, the inter rater reliability of the panel members was determined for ratings on Critique Form II: Demonstrating a Manipulative Skill (Table 2). The statistical test used was analysis of variance as suggested by Winer (1955, pp. 124-132).

<table>
<thead>
<tr>
<th>Panel Members</th>
<th>Pretest rka&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Posttest rka</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 + 2 + 3</td>
<td>.66</td>
<td>.52</td>
</tr>
</tbody>
</table>

<sup>a</sup>rka adjustments for differences in frame of reference
Analysis of Data

The Biomedical Computer Program (BMD03V) for the IBM 7094 computer was selected since this program was specially designed for analysis of covariance for factorial designs. The program provided a total covariance matrix adjusted by residuals, regression coefficients, F-ratios and residual mean squares. The output also included an analysis of variance table.

Two way analysis of covariance was run on post-test criterion test scores (teaching skill) adjusted for variations in pretest scores. The F ratios were computed by dividing the mean squares of the sources of variation by the mean squares of the within groups. Throughout the experiment the .05 level of probability was used in testing for significant differences among means.

The Biomedical Computer Program (BMD02V) for the IBM computer was selected to run the analysis of variance on the pretest and posttest scores on the Confidence Scale. The program provided the sources of variation, degrees of freedom, sums of squares and mean squares from which F values were determined. Values were assigned to the classifications on the Confidence Scale to meet the assumption of interval scale. The values assigned were very confident 4, confident 3, uncertain 2 and very uncertain 1.
The Satisfaction Rating Scale was based on an interval measurement, 9 highly characteristic to 1 highly uncharacteristic. A test of analysis of variance (BMD07V) was used to determine the significant difference for expressed satisfaction by all participants among the three supervisory treatment groups.

A test for agreement between student teachers and supervising teachers in the same supervisory treatment group on expressed satisfaction with the college supervision received was determined. BMD07V was used to determine the F ratio with a special application for repeated measurement case.

Item analysis was carried out for Critique Form II: Demonstrating a Manipulative Skill on both the quantitative and qualitative scale. The output from Simple Item Analysis (Goode, 1967) on the qualitative scale gives the measure of item reliability on pre and post Critique Form II as rated by the panel of judges (Appendix F). The mean, variance and standard deviation for each item was also included in the output.

While the measure of the reliability of an item is an important statistic, a correspondingly more important statistic is a comprehensive measure of the reliability of the scale as a unit. The simplest and most straightforward criterion for scale reliability is to calculate the variance in the total score which can be attributed to internal consistencies. This variance is expressed as a portion of the total variance of the total score.
The ratio, (explained variance over total variance), is always positive and less than "1.0". Such is included in the output. The average, standard deviation and variance, of the total score is also included in the output (p. 3).

A print out was also given for ordering the items from greatest correlation to least correlation.

Even though it was necessary to carry out the item analysis after data collection, the results showed a tendency of this instrument to have internal consistency (Goode, 1969).
CHAPTER IV

FINDINGS AND DISCUSSION OF RESULTS

A compilation of the findings of the study and a discussion of the results are reported in this chapter which is organized into four sections. The first section is concerned with reporting the findings relative to the first two research questions dealing with teaching performance. The second section deals with the findings related to the research questions concerning the student teachers' confidence in their ability to teach. Section three presents the findings related to the participants' expressed feelings of satisfaction with the supervisory method with which each was involved. The fourth section reports on the time and money expenditures for the alternative methods of supervision.

Teaching Performance

Answers to the first two research questions reveal the effects of the three supervisory methods on teaching performance.

Research Question 1

Are the effects of three supervisory treatments significantly different, in terms of improvement of a specific teaching behavior: demonstration of a manipulative skill?
The answer to this research question was determined by testing the null hypothesis:

\[ H_0: \text{There is no significant difference among supervisory treatment groups based on student teachers' posttest scores as measured by the manipulative skill instrument.} \]

Data for this hypothesis were obtained from the pre-posttest scores of teachers on the degree accomplished scale of the instrument for measuring teacher behavior: the demonstration of a manipulative skill. An analysis of variance test on the pretest scores was computed to determine if these scores met the requirements for covariance analysis. The results indicated there was no significant difference among treatment groups. The same was true for teaching confidence levels and there was no interaction effect between treatment and confidence level groups.

Even though no significant difference was shown among treatment groups based on the pretest scores in teaching skill, it was decided that analysis of covariance, using the pretest on teaching skill as the covariate was the proper statistical test for this experimental design.

Using treatment and initial teaching confidence as the variables, covariance analysis was completed on the posttest mean performance scores with the pretest mean performance scores as the covariate (Table 3). An F ratio \( \geq 3.37 \) was needed to show significant difference among treatment groups at the .05 level of confidence. The F ratio
for treatment effect was 1.305 and for teaching confidence level groups was .840, indicating no significant difference among treatment groups and among confidence level groups. The F ratio of 2.328 (P.05 > 2.74) indicated no interaction between treatment effect and teaching confidence level.

Analysis of covariance revealed no significant F value. The null hypothesis was not rejected.

**TABLE 3**

Covariance Analysis on Posttest Mean Scores on Teaching Skill

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degree of Freedom</th>
<th>Sums of Squares</th>
<th>Mean Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>2</td>
<td>0.34121</td>
<td>0.17061</td>
<td>1.305</td>
</tr>
<tr>
<td>Confidence</td>
<td>2</td>
<td>0.21993</td>
<td>0.10997</td>
<td>.840</td>
</tr>
<tr>
<td>Interaction</td>
<td>4</td>
<td>1.22017</td>
<td>0.30504</td>
<td>2.328</td>
</tr>
<tr>
<td>(Treatment x Confidence)</td>
<td>4</td>
<td>1.22017</td>
<td>0.30504</td>
<td>2.328</td>
</tr>
<tr>
<td>Within Replicates</td>
<td>26</td>
<td>3.39410</td>
<td>0.13054</td>
<td></td>
</tr>
</tbody>
</table>

P.05 = 3.37 (with 2, 26 degrees of freedom)  
p.05 = 2.74 (with 4, 26 degrees of freedom)

Thus, in answer to research question one, it can be stated that the effects of the three supervisory methods did not differ significantly in terms of the student teachers' posttest scores on the specific teaching behavior: demonstration of a manipulative skill.
Research Question 2

Do the three supervisory treatments have significantly different effects upon student teachers within the same confidence levels in terms of improvement of a specific teaching behavior: demonstration of a manipulative skill?

This second research question was answered by testing the null hypothesis:

\( H_0: \) There is no significant difference within the same confidence levels among the supervisory treatment groups on the basis of the student teachers' post-test scores as measured by a manipulative skill instrument.

Figure 7 is included to help clarify the concept "within the same confidence levels among the supervisory treatment groups."

Further interpretation of the same covariance analysis used for the first research question answered question two (Table 3). The F calculated at .840 for teaching confidence was not significant at the .05 level of confidence (Table 3). With two and 26 degrees of freedom an F of 3.37 was needed to reject the null hypothesis at the .05 level.

The null hypothesis was not rejected.

The answer to the research question is that the three supervisory treatments did not have significantly different effects upon student teachers within the same confidence levels in terms of improvement of a specific teaching skill (Figure 7).
Figure 7.— Diagrammatic presentation showing no significant difference within the same confidence level groups across treatment groups.

The vertical arrows in Figure 7 indicate the three supervisory treatment groups each containing a low, medium and high confidence level cell. The horizontal arrows indicate the three confidence level groups (low, medium,
high) for each treatment group. The arrows at the bottom of the diagram show a comparison within confidence level groups. Thus, one can look within a confidence level group across treatments to determine the effect of the supervisory methods and answer such a question as: Is a particular supervisory method better for those students in the low confidence level group?

**Discussion**

These results are the same as those of Tintera (1960) although his "supervisor" was the supervising teacher rather than the college supervisor, and the three supervisory critique methods were similar. However he did find significant difference among his experimental groups on a six month follow-up study in terms of performance of pedagogical skills. Does a change in performance of a pedagogical skill show up only after a longer period of using that skill?

The period of student teaching was nine weeks. In reality, observing the type of college supervision and its relation to improvement of a teaching skill, the actual contact time between a college supervisor and a student teacher was about five hours. This short duration of time could be one cause for no significant difference in posttest scores. Previous studies conducted at The Center for Vocational and Technical Education (Cotrell and Doty, n.d.)
on improvement of pedagogical skills in a comparison of feedback treatments with seven supervisor contacts resulted in no significant difference in improvement of teaching skill.

Further analysis, a paired "t" test on performance scores from pre- to posttest was run to determine the direction of the improvement of the teaching skill (Table 4). The "t" value needed was 3.182. There was improvement in the teaching skill in all treatment groups at all confidence levels. There was significant improvement in the low and high confidence level cells in treatment group one (face-to-face). This improvement was not enough to cause a significant difference among treatment groups.

Table 4
Paired "t" Test on Performance Scores from Pre- to Posttest by Skill and Treatment Groups

<table>
<thead>
<tr>
<th>Confidence Level</th>
<th>Face-to-Face Supervision</th>
<th>Audio-Phone Supervision</th>
<th>Video-Phone Supervision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>3.50*</td>
<td>1.16</td>
<td>2.45</td>
</tr>
<tr>
<td>Medium</td>
<td>.349</td>
<td>.52</td>
<td>.99</td>
</tr>
<tr>
<td>High</td>
<td>3.24*</td>
<td>1.23</td>
<td>.10</td>
</tr>
</tbody>
</table>

P.05 ≥ 3.182 (with 3 degrees of freedom)

These results showing no difference among supervisory treatment groups in terms of improvement of the specific
teaching behavior, demonstrating a manipulative skill, does support the thesis of Schueler and Lesser (1967) that the problem seems to be one of what kind of observation recordings, used in what ways, will enhance the development of teaching skills as an essential functional characteristic of teacher education programs.

Comments made by all members of the teaching triad indicated strong support for use of critique forms for evaluating skills plus use of audio-visual records for adding objectivity to the supervisory conferences as well as a directed focus. These comments supported the results in Acheson's (1964) study that audio-visual playback contributed to a more productive conference.

There are both positive and negative factors that could have been causes or reasons for the results related to teaching performance. Based on the methods used and the manner of evaluating improvement of teaching behavior in this study, no significant differences among supervisory treatment groups in terms of improvement of a specific teaching behavior could be reported.

**Teaching Confidence**

The concern in this section of the analysis is with answering research questions three and four dealing with teaching confidence. Teaching confidence, as used in
this study, means the student teachers' expressed feelings about their ability to teach. All the student teachers in the study completed a pre-posttest Confidence Scale.

Research Question 3

Are the effects of three supervisory methods significantly different in terms of student teachers' confidence at the close of their student teaching experience?

The answer to this question was determined by testing the null hypothesis:

\[ H_0: \text{There is no significant difference among supervisory treatment groups in the student teachers' posttest confidence scores as measured by a Confidence Scale.} \]

Using analysis of variance for factorial design the F ratios were computed to determine how the treatment groups differed based on the pretest Confidence Scale scores (Table 5). Since there was no difference in pretest scores, a test was made later to determine significant differences based on the posttest Confidence Scale scores.

The F ratio of 0.13532 shows the comparison among the three treatment groups collapsing on teaching confidence levels. To be significant, the F ratio had to be \( \geq \) than 3.355. Therefore, there was no significant difference among treatment groups determined by mean scores on the pre Confidence Scale. The F ratio of 37.00329 indicated the comparison among confidence levels, collapsing on treatment groups, was significant beyond the .05 level of con-
fidence as the F value needed was $\geq 3.355$. Therefore, there was a significant difference among the low, medium and high confidence level groups across the treatment groups.

Table 5

Analysis of Variance on Confidence Pretest Scores

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>2</td>
<td>0.00905</td>
<td>0.00452</td>
<td>.13532</td>
</tr>
<tr>
<td>Confidence</td>
<td>2</td>
<td>2.47182</td>
<td>1.23591</td>
<td>37.00329*</td>
</tr>
<tr>
<td>Interaction (Treatment x Confidence)</td>
<td>4</td>
<td>.0.13268</td>
<td>0.03317</td>
<td>.99311</td>
</tr>
<tr>
<td>Within (Error Term)</td>
<td>27</td>
<td>0.90172</td>
<td>0.03340</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>3.51527</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

P.05 > 3.34 (with 2 and 27 degrees of freedom)
P.05 $\geq$ 2.72 (with 4 and 27 degrees of freedom)

For the interaction of treatment and confidence, the $F$ ratio was .99311 and to be significant at the .05 level of confidence an $F \geq 2.725$ was needed. Therefore, there was no interaction effect between treatment and confidence based on the mean scores of the pretest Confidence Scale.
The analysis of variance showed that the blocking on the pretest Confidence Scale of the student teachers into three levels of teaching confidence (low, medium, and high) was successful since there was a difference among the confidence levels groups. There were four student teachers from each confidence level in each treatment group. Consequently there should be no significant difference among the treatment groups in terms of teaching confidence. The analysis supported this condition. The effect of treatment and confidence as tested on the pretest Confidence Scale showed no interaction.

Since there was no difference among treatment groups on the pretest Confidence Scale, it was decided that analysis of variance on the posttest confidence scores was appropriate.

The "F" ratio for treatment groups .26223 indicated no significant difference among treatment groups in posttest scores in terms of teaching confidence scores (Table 6). Collapsing across treatment groups and looking at the three levels of teaching confidence, the F ratio of 12.79974 did show a significant difference in teaching confidence among confidence level groups (significant at the .05 level of confidence at F value 3.34).
Table 6
Analysis of Variance on Student Teacher's Posttest Scores on Confidence Scale

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degree of Freedom</th>
<th>Sums of Squares</th>
<th>Mean Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatments</td>
<td>2</td>
<td>0.04951</td>
<td>0.02475</td>
<td>0.26223</td>
</tr>
<tr>
<td>Confidence</td>
<td>2</td>
<td>2.41607</td>
<td>1.20804</td>
<td>12.79974*</td>
</tr>
<tr>
<td>Interaction</td>
<td>4</td>
<td>0.23178</td>
<td>0.05794</td>
<td>0.61390</td>
</tr>
<tr>
<td>Within Replicates</td>
<td>27</td>
<td>2.54830</td>
<td>0.09438</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>5.24566</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

P.05 = 3.34 (with 2, 27 degrees of freedom)
P.05 = 2.73 (with 4, 27 degrees of freedom)

Interaction between treatment effect and teaching confidence would need to have an F value ≥ 2.73 to be significant at the .05 level of confidence. Thus, there was no interaction effect based on the posttest Confidence Scale scores.

Based on the above analysis, the null hypothesis was not rejected.

The analysis concerning teaching confidence revealed the following findings:

1. There was no significant difference among treatment groups on the posttest Confidence Scale.
2. There was significant difference among teaching confidence levels (collapsing across treatment groups).

3. There was no significant interaction effect between treatment and teaching confidence level.

The answer to the research question was: The effects of three supervisory methods were not significantly different in terms of the student teachers' confidence at the close of their student teaching experience.

Research Question 4

Do the three supervisory methods have significantly different effects upon student teachers within the same confidence levels in terms of improvement on posttest confidence scores?

The answer to this research question was investigated by testing the null hypothesis:

\[ H_0: \text{There is no significant difference within the same confidence levels of the supervisory treatment groups on the basis of the student teachers' posttest confidence scores as measured on a Confidence Scale.} \]

The same analysis of variance as reported for research question three, gave the results needed to test this hypothesis (Table 6).

Since there was no interaction among the three supervisory treatment groups and the three levels of teaching confidence, as well as no significant difference among treatment groups (using the mean posttest scores on the
Confidence Scale), these findings indicated no significant difference among the three treatment groups within the same confidence levels.

Therefore, the null hypothesis was not rejected.

In answer to the research question, the three supervisory methods did not have significantly different effects upon student teachers within the same confidence levels in terms of improvement on posttest confidence scores (refer to diagram, Figure 7).

A further analysis was run to look at improvement in teaching confidence. A paired "t" test (P.05 ≥ 3.182) on pre- to post confidence scores by confidence level groups indicated that all confidence level cells within supervisory treatment groups improved significantly in teaching confidence from pre- to posttest (Table 7). Therefore, even though there was no significant difference among supervisory treatment groups in terms of improvement of teaching confidence, all confidence level cells improved significantly.
Table 7
Paired "t" Test on Pre to Posttest Confidence Scores by Confidence Level Groups in Each Treatment Group

<table>
<thead>
<tr>
<th>Confidence Level</th>
<th>T₁ Face-to-Face</th>
<th>T₂ Audio-Phone</th>
<th>T₃ Video-Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>CL⁰</td>
<td>9.107*</td>
<td>5.384*</td>
<td>3.240*</td>
</tr>
<tr>
<td>CM¹</td>
<td>7.425*</td>
<td>6.621*</td>
<td>8.635*</td>
</tr>
<tr>
<td>CH²</td>
<td>3.165*</td>
<td>4.405*</td>
<td>6.636*</td>
</tr>
</tbody>
</table>

a, b, c = L, low; M, medium; H, high teaching confidence
P.05 ≥ 3.182 (with 3 degrees of freedom)

Discussion

The results from this analysis in terms of student teachers' improvement in teaching confidence imply that no matter what supervisory method was involved, all student teachers improved in teaching confidence but it was not due to nor hindered by the method of supervision. Possibly, the experience of student teaching itself, produced change in teaching confidence regardless of supervisory method. The Confidence Scale (Vlcek, 1965) used was a measure of "overall" teaching confidence as opposed to being specific in terms of an increase in one's confidence in giving a demonstration of a manipulative skill. As used by Vlcek (1965), he did find a significant difference "between the
ability-to-teach confidence level mean scores between subjects receiving and not receiving simulator experience" (p. 112). Bogniard (1968), using this same instrument to test change in confidence in use of simulation techniques for pre-service home economics student teachers, found significant change in confidence with a "t" value of 4.80 at the .01 level.

Hoerner (1969) in a study concerned with an assessment of microteaching as a means for improving the effectiveness of a pre-service trade and industrial teacher education workshop, used a modified version of this same instrument to test the research hypothesis:

The participants teaching their practice-teaching sessions to high school students will show significantly greater gain in the level of self-confidence in their ability to teach than the participants who teach practice sessions to peers (p. 63).

On a pre- to posttest comparison for 48 subjects, he found no significant difference between the two groups.

Both Vlcek (1965) and Bogniard (1968) used the Confidence Scale for testing teaching confidence change in relation to use of simulation techniques and found significant change. The present study and Hoerner's (1969) used the instrument in assessing teaching confidence improvement during pre-service educational experiences and found no significant results. The results of these studies indicated
that a closer look and a more detailed analysis might need to be made of the Confidence Scale in relation to its measure of teaching confidence as a result of pre-service educational experiences.

**Satisfaction With Supervisory Methods**

In this section, the results of testing hypotheses related to the expressed satisfaction of the teaching triad with the three methods of supervision are presented. Each participant completed a post Satisfaction Rating Scale to express her feelings of satisfaction or dissatisfaction with the method of supervision in which she was actively involved. This was a quantitative measure of satisfaction. In addition, each participant also answered a series of three questions which allowed for further comment about the three supervisory methods used. The replies to these questions are discussed at appropriate occasions in this section when they relate to specific hypotheses. The participants' criticisms concerning the procedures used as well as suggestions or recommendations for improvement, were requested.

**Research Question 5**

Are the effects of three supervisory methods significantly different in terms of expressed satisfaction of the student teachers?
To answer this question the null hypothesis tested was:

\[ H_0: \text{ There is no significant difference among the supervisory treatment groups in the student teachers' satisfaction with the supervision from the college as measured by a Satisfaction Scale.} \]

A single classification analysis of variance based on the posttest Satisfaction Scale scores showed an F ratio of 3.9103, which is significant at F value 3.29 at the .05 level of confidence (Table 8). This indicated that there was a significant difference among the supervisory treatment groups in the student teachers' satisfaction with the supervision from the college. An analysis of variance multiple range test indicated that this significant difference occurred between supervisory treatment groups 1 and 2, and between 2 and 3. It did not occur between groups 1 and 3 (Table 9). Therefore, the rank order by mean scores was from most satisfied to least satisfied:

Face-to-Face Supervisory Group \((T_1)\)

Video-Phone Supervisory Group \((T_3)\)

Audio-Phone Supervisory Group \((T_2)\)

Based on the preceding analysis the null hypothesis was rejected.

The answer to the research question was, that the effects of three supervisory methods were significantly different in terms of the expressed satisfaction of the
Table 8

Analysis of Variance Multiple Range Test on Student Teachers' Posttest Satisfaction Scores Among Three Treatment Groups

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between squares</td>
<td>13375.0562</td>
<td>2</td>
<td>6687.2581</td>
<td>3.9103*</td>
</tr>
<tr>
<td>Within groups</td>
<td>56437.1641</td>
<td>33</td>
<td>1710.2171</td>
<td></td>
</tr>
</tbody>
</table>

P.05 > 3.29 (with 2 and 33 degrees of freedom)

Table 9

Treatment Means, Standard Deviation and Rank Order of Mean Satisfaction Scores for Student Teachers\(^a\)

<table>
<thead>
<tr>
<th>Treatment Number</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Rank Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Face-to-Face</td>
<td>198.00</td>
<td>48.4768</td>
<td>1. Face-to-Face</td>
</tr>
<tr>
<td>2. Audio-Phone</td>
<td>155.58</td>
<td>28.2536</td>
<td>3. Video-Phone</td>
</tr>
<tr>
<td>3. Video-Phone</td>
<td>194.75</td>
<td>44.5240</td>
<td>2. Audio-Phone</td>
</tr>
</tbody>
</table>

\(^a\)Figures were obtained from analysis of variance multiple range test (Table 8).
student teachers, favoring face-to-face, video-phone, audio-phone in that order.

Discussion

Why is there a difference among the groups of student teachers in terms of satisfaction? What factors caused those in face-to-face and video-phone groups to be in close agreement on satisfaction? What caused the student teachers in the audio-phone group to be less satisfied than the other two?

The replies given by the student teachers on the Questionnaire section of the Satisfaction Scale shed some light on these questions. Those replies concerned with the advantages and disadvantages of a particular supervisory method did relate to satisfaction or dissatisfaction. These comments gave plausible reasons for satisfaction although not a true cause and effect relationship.

Selected comments on the advantages of the face-to-face and video-phone supervisory methods by the student teachers help one to see why they might have been more satisfied than the audio-phone group of student teachers (Table 10).
TABLE 10
Advantages of Face-to-Face and Video-Phone Supervision as Expressed by Student Teachers

<table>
<thead>
<tr>
<th>Face-to-Face Supervision</th>
<th>Video-Phone Supervision</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Similar Comments</strong></td>
<td></td>
</tr>
<tr>
<td>1. College supervisor could observe pupils reaction</td>
<td></td>
</tr>
<tr>
<td><strong>Additional Comments</strong></td>
<td></td>
</tr>
<tr>
<td>1. Provides immediate feedback</td>
<td>1. Fairer, due to greater number of contacts</td>
</tr>
<tr>
<td>2. You're not pressed for time</td>
<td>2. More freedom to show college supervisor your strong points</td>
</tr>
<tr>
<td>3. Face-to-Face contact non-verbal reaction</td>
<td>3. Stimulated to do my best work; self-evaluation</td>
</tr>
<tr>
<td>4. Can explain problems to college supervisor easier</td>
<td>4. Relieves tension of college supervisor dropping in</td>
</tr>
</tbody>
</table>

The comments expressed by the student teachers indicated that each group was satisfied for different reasons. The audio-phone student teachers listed twice as many disadvantages as the video-phone groups and three times as many as the face-to-face group. Typical comments were:

1. Isolated and mechanical samplings of lessons, equipment problems.

2. College supervisor did not have a true picture of my classroom, pupils, teacher-pupil rapport and visual aids.
3. College supervisor did not have an adequate basis for evaluation.

4. There's more to teaching than sound.

These comments revealed concerns of the student teacher regarding "how much" and "what" the college supervisor observes or hears in relation to "what for." If the student felt that this "isolated sampling of my lesson" was the basis for the "college supervisor's evaluation of my teaching" then one can see how a student teacher might get a feeling of dissatisfaction.

In the video-phone group, the student teachers also were concerned about the college supervisor not getting the "true picture" of their teaching but disadvantages mentioned in this group leaned more toward equipment problems, i.e. pupils "acting" for the camera, not getting pupils' reactions on the tape, sharing equipment.

The face-to-face group of student teachers indicated that even though the college supervisor observed the pupils in the classroom, they did not think the college supervisors were realistic about the attitudes and actions the pupils displayed. Many student teachers mentioned the "tension" of having the college supervisor in the classroom for an entire day.

Even though the analysis showed a significant difference among treatment groups, this difference existed only between T₁ and T₂ and between T₂ and T₃. There was
no significant difference between $T_1$ and $T_3$. Looking at the rank order 1, 3, 2 and then comparing mean scores, the face-to-face supervisory method with a mean score of 198.00 was only 4 points different from video-phone supervision of 194.75. Therefore, one could not really state that the face-to-face group was more satisfied than the video-phone group.

Research Question 6

Do the three supervisory methods have significantly different effects upon student teachers within the same confidence levels in terms of expressed satisfaction with the supervision received from the college.

The answer to this question was sought by testing the null hypothesis:

$$H_0: \text{There is no significant difference within the same confidence levels of the supervisory treatment groups in the student teachers' satisfaction as measured by a Satisfaction Scale.}$$

Analysis of variance for factorial design was run using the posttest scores on the Satisfaction Scale. The F ratio of 3.63342 was significant at the .05 level of confidence for treatment groups (Table 11). An F value $\geq 2.73$ was needed for significant difference among confidence levels. The F ratio was .03578 and therefore, not significant. The F ratio of .08978 showed no significant difference in interaction between treatment group and confidence levels.
Table 11
Analysis of Variance for Factorial Design on Student Teachers' Posttest Satisfaction Scores by Treatment Groups and Confidence Level Group

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatments</td>
<td>2</td>
<td>13375.06</td>
<td>6687.53</td>
<td>3.63342*</td>
</tr>
<tr>
<td>Confidence</td>
<td>2</td>
<td>131.72</td>
<td>65.86</td>
<td>.03578</td>
</tr>
<tr>
<td>Interaction (T x C)</td>
<td>4</td>
<td>6610.44</td>
<td>1652.61</td>
<td>.08978</td>
</tr>
<tr>
<td>Within Replicates</td>
<td>27</td>
<td>49695.00</td>
<td>1840.56</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>69812.21</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

P.05 > 3.35 (with 2 and 27 degrees of freedom)
P.05 > 2.73 (with 4 and 27 degrees of freedom)

Thus even though there was a significant difference among treatment groups in terms of expressed satisfaction by student teachers in those groups, there was no significant difference within the low, medium and high confidence levels. Since there was no interaction of treatment and confidence, the findings showed no significant differences within the same confidence levels across supervisory treatment groups (refer to diagram, Figure 7).

Based on the preceding analysis, the null hypothesis was not rejected.

The answer to the research question is that the three
supervisory treatments do not have significantly different effects upon student teachers within the same confidence level groups in terms of expressed satisfaction with the college supervision received.

Discussion

These results indicated that those student teachers within a specific confidence level group (low, medium or high) were equally satisfied with the method of supervision in which they were involved. Therefore, for either the insecure or confident student teacher, the possibility of using alternative methods of supervision does exist in so far as they affect her satisfaction.

Research Question 7

Is there a significant difference in satisfaction expressed by the supervising teachers in three supervisory treatment groups?

The answer to this research question was investigated by testing the null hypothesis:

\( H_0: \) There is no significant difference among the supervisory treatment groups in the supervising teachers' satisfaction with the supervision from the college as measured by a Satisfaction Scale.

A single classification analysis of variance resulted in an \( F \) of 4.7778 which was significant \((P.05 \geq 3.29; \text{Table 12})\).

This \( F \) ratio indicated that there was a significant difference among supervisory treatment groups in terms of the
supervising teachers' satisfaction with the supervision from the college (Table 12). To find where this significant difference among supervisory treatments existed, an analysis of variance multiple range test was used. The mean scores and rank order for the three treatment groups indicated that there was a significant difference between treatment groups one and two and between two and three (Table 13). The rank order based on the posttest Satisfaction Scale (highest possible mean score is 279) from most satisfied to least satisfied is:

- Face-to-Face Supervision \( (T_1) \)
- Video-Phone Supervision \( (T_3) \)
- Audio-Phone Supervision \( (T_2) \)

### Table 12

Analysis of Variance Multiple Range Test on Supervising Teachers' Posttest Satisfaction Scores

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>16173.4998</td>
<td>2</td>
<td>8086.7499</td>
<td>4.7778*</td>
</tr>
<tr>
<td>Within Groups</td>
<td>55855.2500</td>
<td>33</td>
<td>1692.5833</td>
<td></td>
</tr>
</tbody>
</table>

\[ P.05 \geq 3.29 \text{ (with 2 and 33 degrees of freedom)} \]
Table 13
Treatment Means, Standard Deviation and Rank Order of Mean Satisfaction Scores for Supervising Teachers

<table>
<thead>
<tr>
<th>Treatment Number</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Rank Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Face-to-Face</td>
<td>212.50</td>
<td>23.0632</td>
<td>1. Face-to-Face</td>
</tr>
<tr>
<td>2. Audio-Phone</td>
<td>166.00</td>
<td>37.4433</td>
<td>Video-Phone</td>
</tr>
<tr>
<td>3. Video-Phone</td>
<td>209.24</td>
<td>56.0700</td>
<td>Audio-Phone</td>
</tr>
</tbody>
</table>

*Figures were obtained from analysis of variance multiple range test.

Based on the preceding analysis, the null hypothesis was rejected.

There was a significant difference in satisfaction expressed by the supervising teachers in the three supervisory treatment groups, favoring face-to-face, video-phone, audio-phone in that order.

Discussion

The results discovered about the supervising teachers' satisfaction were the same as those for the student teachers' satisfaction in terms of difference among treatment groups and the ranking by mean scores for the three supervisory treatment groups, face-to-face, video-phone, audio-phone in that order. Looking at the mean scores for $T_1$ (212.50) and $T_3$ (209.25), there was only a 3.25 point difference. Thus,
it would not be correct to say that the face-to-face supervision group was more satisfied. In terms of rank order, they would be first.

When faculty in teacher education programs are contemplating the possibility of selecting alternative methods of college supervision, they would naturally be concerned with how satisfied were the participants involved in these alternative methods. A question raised by these findings is: Why were the supervising teachers in one supervisory group more or less satisfied than those in others? The rank order of supervisory treatment groups \((T_1, T_3, T_2)\), indicated that the audio-phone supervisory group of supervising teachers was less satisfied with this method of college supervision than were the other two groups of supervising teachers. A source that might help shed some light on this phenomenon are the answers given on the Questionnaire section of the Satisfaction Scale pertaining to the "advantages and disadvantages of the supervisory method in which the supervising teachers were involved (Appendix D).

Even though the supervising teachers in the face-to-face and video-phone treatment groups were more satisfied than the audio-phone groups, by analyzing their replies regarding the advantages of these two alternative methods
of supervision, they were satisfied for both similar and dissimilar reasons (Table 14).

Table 14

Advantages of Face-to-Face and Video-Phone Supervision as Expressed by Supervising Teachers

<table>
<thead>
<tr>
<th>Face-to-Face Supervising Teachers</th>
<th>Video-Phone Supervising Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Similar Comments</strong></td>
<td></td>
</tr>
<tr>
<td>1. Critique forms helpful for evaluating objectively.</td>
<td>1. Feedback was more objective and student teacher less emotionally involved.</td>
</tr>
<tr>
<td>2. Can observe pupils' reactions and non-verbal cues.</td>
<td>2. Student teacher self-evaluation improved, places problems in proper perspective.</td>
</tr>
<tr>
<td>3. Gives more complete picture of the lesson.</td>
<td>3. Promotion of more careful planning for video taped lesson carried over to other lessons.</td>
</tr>
</tbody>
</table>

| Dissimilar Comments               |                                  |
|-----------------------------------|                                  |
| 1. Allowed for immediate feedback. | 1. Feedback was more objective and student teacher less emotionally involved. |
| 2. Can observe student teachers' use of teaching resources. | 2. Student teacher self-evaluation improved, places problems in proper perspective. |
| 3. No abrupt changes needed for visit by college supervisor. | 3. Promotion of more careful planning for video taped lesson carried over to other lessons. |

The list of disadvantages compiled from the answers by the supervising teachers in the audio-phone treatment group was twice as long as that same list compiled for the other two groups (20 statements versus 10 statements).
Selected comments made by the audio-phone supervising teachers in terms of disadvantages represented possible reasons for dissatisfaction.

The college supervisor could not observe the student teachers' mannerisms and personality as they affected the pupils nor the audio-visual aids she used.

This comment was similar to a comment made by the student teachers regarding their personal and physical characteristics as well as their use of teaching aids. Does the college supervisor perceive of this area of concern in the same manner? If so, what should be her responsibility regarding this aspect of student teaching?

Not called on time, conference ran into another class period, poor reception on phone for three-way conference.

Hard to do a demonstration for recording purposes, could not get pupil responses on the tape.

These three "groups" of comments are different from the disadvantages as expressed by the supervising teachers in the other two groups. They do show three general areas of concern that created dissatisfaction. These were (1) college supervisors' lack of observation of the physical appearance of the student teacher and her use of resources which the supervising teacher was constantly aware of and deemed important, (2) the technicalities of carrying out the supervisory conference via phone as well as equipment
problems which were annoying and (3) the choice of the specific teaching technique used for analysis in terms of the student teacher's effectiveness. Schueler and Lesser (1967) suggested adding supplementary comments to an educational audio tape that was predominantly non-verbal in character.

The trends showing up in comments regarding the advantages and disadvantages of the three supervisory methods which create satisfaction or dissatisfaction cause one to raise the following questions:

1. How important to effective teaching are the student teachers' mannerisms, personality, and appearance?

2. Who should evaluate these particular characteristics, the supervising teacher who is with the student teacher each day or the college supervisor who sees her occasionally?

3. To what extent is immediate feedback from college supervisors more advantageous than delayed, objective feedback?

4. Can audio-phone supervision be improved to allow for greater satisfaction of the supervising teachers?
Research Question 8

Is there agreement on satisfaction expressed by the student teachers and supervising teachers in the same supervisory treatment groups?

The answer for this research question was determined by testing the null hypothesis:

\[ H_0: \text{There is no significant difference in agreement on satisfaction between the student teachers and the supervising teachers in the same supervisory treatment group as measured by a Satisfaction Scale.} \]

An analysis of variance for factorial design was run to discover if there was this agreement. The analysis resulted in an F ratio of 6.2713 for treatment groups which was significant beyond the .05 level of confidence (Table 15). This indicated that there was a significant difference among the supervisory treatment groups in terms of satisfaction expressed. For rater agreement, an F ratio of 2.95294 indicated no significant difference among raters (student teachers and supervising teachers) as an F value \( \geq 4.14 \) at the .05 level of confidence was needed for significant difference. This analysis further supported the analysis run for hypothesis five and six (Table 8, 11). The analysis for hypothesis five and six indicated the significant difference was between \( T_1 \) and \( T_2 \) and between \( T_2 \) and \( T_3 \). The rank order was the same for the student teachers and supervising teachers, thus, indicating agreement on satisfaction within the same supervisory treatment group (Table 9, 12).
Table 15

Analysis of Variance for Factorial Design on Satisfaction Scores for Agreement Between Supervising Teachers and Student Teachers Within the Same Supervisory Treatment Groups

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatments</td>
<td>2</td>
<td>29481.86035</td>
<td>14740.93018</td>
<td>6.27135*</td>
</tr>
<tr>
<td>Raters</td>
<td>1</td>
<td>3107.34717</td>
<td>3107.34717</td>
<td>2.95294</td>
</tr>
<tr>
<td>Interaction (TXR)</td>
<td>2</td>
<td>66.69434</td>
<td>33.34717</td>
<td>.03169</td>
</tr>
</tbody>
</table>

P.05 > (3.29) (with 2 and 33 degrees of freedom)
P.05 > (4.14) (with 1 and 33 degrees of freedom)

The results indicated that there was significant difference among treatment groups, but no significant difference between the student teachers and supervising teachers within treatment groups.

Thus, the null hypothesis was not rejected.

In answer to the research question, there is agreement on satisfaction expressed by the student teachers and the supervising teachers within the same supervisory treatment groups.

Discussion

Although there was a significant difference among the supervisory treatment groups as a whole on expression of
satisfaction, within each group the student teachers and supervising teachers agreed. Selected comments from the Questionnaire section of the Satisfaction Scale indicated this agreement for all supervisory treatment groups regarding the advantages and disadvantages of each supervisory method (Table 16).

In each supervisory treatment group, both the student teachers and supervising teachers indicated the same concerns regarding each supervisory method. For face-to-face and video-phone supervision there were more advantages than disadvantages listed. For audio-phone supervision, there were more disadvantages listed. Rank order by mean satisfaction score placed this method at the lowest order in terms of expressed satisfaction by both student teachers and supervising teachers in that group.

Considering the comments in their totality, several trends or issues are apparent. In the affective domain, the concern for establishing rapport and a close contact with the college supervisor was apparent. The personality characteristics of the student teachers and their rapport with pupils in the classroom, as well as receiving a "fair" evaluation of one's teaching effectiveness were additional concerns. In the cognitive domain, there was concern for objective evaluation with immediate feedback of results, an increase in self evaluation by the student
Table 16
Advantages and Disadvantages of the Supervisory Methods as Expressed by the Student Teachers and the Supervising Teachers

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Face-To-Face Supervision</strong></td>
<td></td>
</tr>
<tr>
<td>1. allowed for eye contact</td>
<td>1. three visits not enough</td>
</tr>
<tr>
<td>2. immediate feedback</td>
<td>2. causes unnecessary strain</td>
</tr>
<tr>
<td>3. college supervisor could observe the</td>
<td>3. unrealistic discussion of teaching results</td>
</tr>
<tr>
<td>whole class pupil reaction</td>
<td>4. objective evaluation difficult</td>
</tr>
<tr>
<td><strong>Audio-Phone Supervision</strong></td>
<td></td>
</tr>
<tr>
<td>1. increase in both objective and self-</td>
<td>1. did not hear a total lesson</td>
</tr>
<tr>
<td>evaluation</td>
<td>2. college supervisor couldn't see room, pupils,</td>
</tr>
<tr>
<td>2. increase in contacts with college</td>
<td>visual aids</td>
</tr>
<tr>
<td>supervisor</td>
<td>3. felt lack of personal relationship with college</td>
</tr>
<tr>
<td>3. less pressure on the student teacher,</td>
<td></td>
</tr>
<tr>
<td>more relaxing</td>
<td></td>
</tr>
<tr>
<td><strong>Video-Phone Supervision</strong></td>
<td></td>
</tr>
<tr>
<td>1. increased contacts provide fairer</td>
<td>1. more concerned with being taped than with the</td>
</tr>
<tr>
<td>means for evaluation</td>
<td>lesson or pupils</td>
</tr>
<tr>
<td>2. you see yourself as others see you</td>
<td>2. college supervisor cannot see overall picture</td>
</tr>
<tr>
<td>3. easier for student teacher to accept</td>
<td>3. hard to establish rapport with college supervi-</td>
</tr>
<tr>
<td>helpful criticism, increases self-</td>
<td>sor via phone</td>
</tr>
<tr>
<td>evaluation</td>
<td></td>
</tr>
</tbody>
</table>
teacher, and emphasis on the teaching-learning process. The advantages and disadvantages as expressed by these two members of the teaching triad, do show cause for both satisfaction and dissatisfaction. Yet, improvement in skill and teaching confidence occur regardless of supervisory method. Does this fact support the possibility of a combination of supervisory methods in a given student teaching situation after the initial face-to-face contact?

Research Question 9

What is the expressed satisfaction of the college supervisors with each of the three supervisory methods?

The answer to this question was determined by testing the null hypothesis:

\[ H_0: \text{There is no significant difference in the college supervisors' satisfaction with the three supervisory methods which they used.} \]

A one-way analysis of variance was used to obtain an F value by which the tenability of the hypothesis was assessed (Popham, 1967, pp. 179-188). The calculated F ratio was 2.346. To have a significant difference among treatment groups an F value \( \geq 5.14 \) was needed (Table 17).
Table 17
Analysis of Variance on College Supervisors' Posttest Satisfaction Scores

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Degree of Freedom</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>7280</td>
<td>3640</td>
<td>2.346</td>
</tr>
<tr>
<td>Within Groups</td>
<td>6</td>
<td>2028</td>
<td>1551</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>8</td>
<td>9308</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

P.05 ≥ 5.14 (with 2 and 6 degrees of freedom)

Based on this analysis, the null hypothesis was not rejected.

This analysis indicated that there was no significant difference in the expressed satisfaction of the college supervisors with the three supervisory methods which they used.

Discussion

Due to the number of college supervisors, the assumption of equal variances was precarious. Under these conditions, the F ratio is only an approximate test of significance (Popham, 1967). The raw scores on which the analysis of variance test was based indicated a direction toward greater satisfaction with the face-to-face supervisory method than with the video-phone or audio-phone supervisory methods.
The college supervisors responded to the same Questionnaire section of the Satisfaction Scale as did the other two members of the teaching triad. Their comments under advantages of the three supervisory methods were equal in number. A composite of selected comments made by the college supervisors illustrated reasons why their satisfaction tends to be similar for the three supervisory groups.

**Face-to-Face supervisory method.**

1. Having time to cover wider areas of concern (other than student teachers' problems)
2. More effective rapport established
3. Able to see realistic situation
4. Immediate discussion of results taught
5. Able to see visuals student teacher used

**Audio-Phone supervisory method.**

1. Increased contacts with the student teacher
2. More objective look at student teacher's performance
3. Forced to notice the interaction between pupils and student teacher
4. Eliminated travel time
5. Good for student teacher self-evaluation

**Video-Phone supervisory method.**

1. Provides concrete examples for making analysis, for questioning and for guidance
2. Excellent for student teacher self-evaluation
3. Provided for regular conferences between supervising teacher and student teacher
4. Lends directed focus to the supervisory conference.

Replies made by the college supervisors related to what they felt were the disadvantages of each supervisory method revealed that in all methods, there was concern
about limited sampling of the student teachers' teaching with the concomitant responsibility for evaluating the student teacher based on this limited evidence. Need for immediate feedback of teaching results was stressed in all methods of supervision.

Other disadvantages cited were in relation to the audio-phone supervisory method and dealt mainly with use of the equipment and the fact that this medium was unidimensional in character.

The findings, especially those describing advantages relative to the college supervisors' satisfaction with the three methods of supervision, clearly illustrated the important factors in each supervisory method that are cause for satisfaction. Can the good points in each method be combined to provide another method of supervision?

The Triad's Suggestions for Improving The Supervisory Methods

A single page Questionnaire was attached to the Satisfaction Scale. This sheet contained the following three requests:

1. What do you consider the main advantages and disadvantages of the method of supervision in which you were involved?
2. If you were involved in this type of supervision again, what would be your suggestions for improvement of the method of supervision in which you were involved?

3. Specify any additional criticisms.

The replies from the first question have been discussed in relation to their possible effect on the triad's expressed feelings of satisfaction. The last two questions elicited suggestions for improvement if the supervisors were to be involved in these methods of supervision again and asked for additional criticisms and comments. The essence of these comments are discussed here under two headings: (1) student teachers' and supervising teachers' suggestions and criticisms and (2) college supervisors' suggestions and criticisms.

**Student Teachers' and Supervising Teachers' Suggestions and Criticisms**

Improvements suggested by the face-to-face treatment groups were for an increase in contacts by the college supervisor, additional conference time for the student teacher to present her problems to the college supervisor and, unannounced contacts in the school. A request was made by the supervising teachers to de-emphasize grades.

The audio-phone treatment group suggested phone contacts at the same time each week and improvement in the quality of the phone hook-up for the 3-way conferences.
The plea for the college supervisor to make "at least one visit to the school" was a unanimous request. It was also suggested that longer tapes (more than 15 minutes) be made and to increase the number of tapes (5 were requested for the study). Two microphones in the classroom were recommended so that more of the pupil responses could be recorded on the tapes.

The video-phone group's suggestions for improvement paralleled those of the audio-phone group. They dealt mainly with the use of the equipment. The need for a mobile tripod apparatus for moving the camera was suggested as well as additional orientation session for the "cameraman" so he would be aware of what specifics to record, i.e. shots of pupils versus shots of student teachers, close ups. The greatest number of suggestions related to having a video recording system in each school. The need for two schools to share a system was inconvenient in terms of transporting it and having it available when needed.

After having an opportunity to list advantages, disadvantages and suggestions for improvements, additional criticisms were negligible for the face-to-face and video-phone treatment groups. The audio-phone group, once again, replied with several criticisms.
There was one case in which the college supervisor and the supervising teacher had not met. It was difficult in this case to establish rapport by phone. There were several suggestions that orientation to the whole process should have been increased. An additional suggestion was that the critique forms on teaching skills could have been simplified.

These suggestions for improvement will be quite useful in terms of replicating the study. They also shed light on several additional steps that could have been taken to strengthen the pre-active phase of this study:

1. Be sure all college supervisors have met their supervising teachers.
2. Allow college supervisor to make at least one contact in the school.
3. Place additional emphasis on the supervisory methods during the orientation sessions.
4. Conduct equipment orientation sessions for the supervising teachers.
5. Assign the student teachers to the supervisory treatment groups early, so that at all orientation sessions, the college supervisors and "her" supervising teachers can work together.

Anyone undertaking a new method of doing something is always apprehensive about "trying something new." This phenomenon was apparent during the orientation sessions and during personal contacts made to the schools by the researcher.
College Supervisors' Suggestions

The suggestions made by the college supervisors were quite perceptive. One college supervisor "felt there were advantages to all three methods so why not use a combination of these methods!" Since it takes skill to video-record or to tape a good quality audio recording, more assistance in the use of equipment was suggested for the supervising teachers. It was suggested that for three college supervisors there was a need for two audio recorders and two video recording systems for their exclusive use for the entire student teaching period. One audio tape recorder and one video recording system for 5 weeks and an additional video recording system for the last 4 weeks were available.

The college supervisors agreed with the student teachers in desiring "an opportunity to talk with each other in a private conference prior to the beginning of the student teaching period and to "meet, know and be familiar with supervising teachers and the schools."

Improvement was suggested for scheduling face-to-face contacts, viewing tapes and conducting phone conferences. One problem was that several supervising teachers had the same conference period, so one had to be called at a less appropriate time. An additional suggestion was made that "extemporaneous" recordings be made of the student teachers' lesson. This then could
be equated with an unannounced face-to-face observation.

The vastness of the college supervisors' responsibilities when involved in three methods of supervision cannot be underestimated. Two of these methods were new. Both involved daily use of "new" educational media. Scheduling for the varying methods was demanding as well as the additional record keeping for purposes of analysis.

**Time and Money Resources for Alternative Methods of Supervision**

**Research Question 10**

Are the expenditures of time and money resources similar for the alternative methods of college supervision?

Research question 10 could not be tested by a statistical test. The answer to this question is based upon the records kept by the participants of the study.

The participants in the study were provided with forms (Appendix G) on which to record expenditures of time and money resources and the number of telephone calls made during this study. It was hoped that a procedure for collecting information related to the relative cost of the various supervisory methods could be determined. In calculating expenditures for purposes here it was to be assumed that in the schools where audio-tape recorders, video recording systems, and telephone installations for
the phone conferences were to be used, all equipment was available. College supervisors' salaries were not to be considered for the purposes in this study. Thus, the members of the teaching triad and the researcher kept records of such expenses as cost of (1) tapes, (2) postage, (3) transporting video recording systems from one school to another, and (4) college supervisors' travel expenses.

At the completion of the study, when records were analyzed in terms of phone costs for each supervisory method, it was discovered that due to the system of handling telephone receipts for institutional research studies, it was impossible to obtain an accurate account of phone costs. Thus, it was impossible to obtain an accurate picture of the costs for the video-phone and audio-phone supervisory methods in comparison to the face-to-face method which included costs for travel.

Therefore, the possibility of developing a procedure for determining costs of the alternative methods of supervision was abandoned.

Records were kept by the college supervisors for each student in each supervisory method to determine the contacts made by the hour with each student teacher, supervising teacher and with both during 3-way conferences. Thus, an accurate measure was made of supervisory conference time with:
1. Student teachers - 2-way conference.


3. Student teacher and supervising teacher - 3-way conference.

In addition to this time expended, the time allowed for observation was also calculated. In the face-to-face supervisory method, time was recorded for travel. The college supervisors' time involvement (Table 18) indicated that the college supervisors' total hours per student teacher were: (1) 16.2 hours for face-to-face supervision, (2) 9.8 hours for audio-phone supervision and (3) 9.9 hours for video-phone supervision. The total amount of time spent in contact with the supervising teacher was: (1) 1.2 hours - face-to-face, (2) 0.6 hours - audio-phone and 1.0 hours - video-phone. For 3-way phone conferences and 2-way conferences involving the contacts with the student teachers, hours spent were: (1) 4.5 hours face-to-face, (2) 3.0 audio-phone and (3) 3.0 video-phone.

Due to the many responsibilities that the college supervisors had with three methods of supervision and their other departmental commitments any time record must be considered an estimate. However, barring "human error," these records do provide an estimate of time involved in the use of the three supervisory methods.
Table 18
College Supervisors' Time Involvement for the Three Supervisory Methods
(Hours Per Student Teacher)

<table>
<thead>
<tr>
<th>Treatment group</th>
<th>With Supervising teachers</th>
<th>With Student Teachers</th>
<th>3-way Conference</th>
<th>Travel, Viewing, Listening to tapes, etc.</th>
<th>Total time involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face-to-Face</td>
<td>1.2</td>
<td>3.0</td>
<td>1.5</td>
<td>10.4</td>
<td>16.1</td>
</tr>
<tr>
<td>Audio-Phone</td>
<td>0.6</td>
<td>1.7</td>
<td>1.3</td>
<td>6.2</td>
<td>9.8</td>
</tr>
<tr>
<td>Video-Phone</td>
<td>1.0</td>
<td>1.5</td>
<td>1.5</td>
<td>5.9</td>
<td>9.9</td>
</tr>
</tbody>
</table>

Discussion

There are two factors that should be pointed out regarding involvement of the college supervisors' time. Exactly in what category the observation time for the face-to-face supervisory group was recorded was not clear. It could have been included under conference time or miscellaneous time. Whereas, observation time for the other two groups was specifically spelled out under reviewing tape time.
A second factor of concern was, that in the procedures for the audio- and video-phone supervisory methods, it was suggested that a maximum of 10 half-hour calls be made to each student teacher or a total phone conference time of five hours. This was designated because it had been estimated, prior to the study, that during face-to-face supervision contact time was equal to approximately five hours. These records indicated that the "maximum" time was not used for college supervisor-student teacher contacts. The term "maximum" was used in the instructions. In effect, that information could have been misleading, thus causing college supervisors to be quite cautious in the use of the phone for conference purposes.

Concluding Statement

The findings support the feasibility of the remote supervision of preservice home economics student teachers. All student teachers in all supervisory treatment groups did improve in teaching behavior and in teaching confidence concomitant with certain expressed satisfactions about the supervision they received from the college. The supervising teachers concurred with the same expression of satisfaction.
The fact that there was no significant difference among the three supervisory treatment groups in terms of this improvement indicated that learning can occur under all three methods of supervision. Adding to this fact that there was no significant difference in the expressed satisfaction of the college supervisors for the three supervisory methods they used, the path is clear for experimentation in choosing one or a combination of these alternative methods of supervision. The advantages of each supervisory method must be weighed carefully against the concomitant expenditures of time and money resources.
CHAPTER V

SUMMARY AND IMPLICATIONS

Summary

The purpose in this study was to examine the feasibility of remote supervision of preservice home economics education students. Would alternative methods of college supervision allow for effective guidance and evaluation? Can choice of a supervisory method depend upon current social and economic conditions, technological changes and innovations in education, particular school settings and the needs of individual student teachers?

The research was pursued as a cooperative effort of the faculty of the Division of Home Economics Education of the College of Agriculture and Home Economics, and the Center for Vocational and Technical Education at The Ohio State University. The data for this study were collected during the Winter Quarter, 1969.

A pretest - posttest control group design was used in the study with subjects (36) being blocked and then randomly assigned to the three supervisory methods - face-to-face, audio-phone and video-phone supervision.
Three instruments were used - (1) Confidence Scale to measure pre and post teaching confidence of the student teachers, (2) Critique Form II: Demonstrating a Manipulative Skill to measure improvement in performance of a specific teaching skill (3) Satisfaction Rating Scale, to measure the teaching triad's (college supervisor, supervising teacher, student teacher) expressed satisfaction with the supervisory method in which they were actively involved. The results of the pre-posttests compiled the primary data used to test null hypotheses to answer the research questions.

1. Are the effects of three supervisory methods significantly different, in terms of improvement of a specific teaching behavior: demonstration of a manipulative skill?

2. Do the three supervisory methods have significantly different effects upon student teachers within the same confidence levels in terms of improvement of a specific teaching behavior: demonstration of a manipulative skill?

3. Are the effects of three supervisory methods significantly different in terms of the student teachers' confidence at the close of their student teaching experience?

4. Do the three supervisory methods have significantly different effects upon student teachers within the same confidence levels in terms of improvement on posttest confidence scores?

5. Are the effects of three supervisory methods significantly different in terms of expressed satisfaction of the student teachers?
6. Do the three supervisory methods have significantly different effects upon student teachers within the same confidence levels in terms of expressed satisfaction with the college supervision received?

7. Is there a significant difference in satisfaction expressed by the supervising teachers in three supervisory treatment groups?

8. Is there agreement on satisfaction expressed by the student teachers and supervising teachers in the same supervisory treatment groups?

9. What is the expressed satisfaction of the college supervisor with each of the three supervisory methods which they used?

10. Are the expenditures of time and money resources similar for the alternative methods of college supervision?

Prior to the beginning of the Winter Quarter, the researcher developed plans for the procedures to be used in the three supervisory methods. The preactive phase consisted of development of instruments and record forms, making requests for permission to conduct the study in the public schools of Ohio, and conducting orientation sessions for all participants.

The active phase of the study began with the student teacher's first day of student teaching January 6, 1969. Of the 36 student teachers in the study, 12 were assigned to each supervisory method. College supervisors had differing total supervisory loads but had an equal number of student teachers to supervise by each method.

The post active phase included rating the students' pre-POSTTEST video tapes and completing the analysis of data.
1. Face-to-Face Supervision — (conventional method) consisted of three observation contacts with the student teacher at the school which included supervisory conferences.  
2. Audio-Phone Supervision — (remote method) consisted of listening and critiquing five audio taped lessons made by the student teacher and then conducting supervisory conferences by phone.  
3. Video-Phone Supervision — (remote method) consisted of viewing and listening to five video taped lessons made by the student teacher, critiquing them and then conducting supervisory conferences by phone.

Teaching Performance

Performance scores as determined by a panel of three judges comprised the primary data for covariance analysis to test for improvement in teaching behavior.

All statistical results were evaluated at the .05 level of confidence for significant difference. An F ratio of 1.42 for treatment effect (supervisory methods) was not significant. The same was true for teaching confidence levels and there was no interaction effect between treatment and confidence.

Based on these findings, the answer to the first two research questions was: The effects of the three supervisory methods did not differ significantly by confidence.
level or total treatment group in terms of the student teachers' posttest scores on the specific teaching behavior: demonstration of a manipulative skill.

Teaching Confidence

Confidence scores were used to determine whether the supervisory method affected improvement in teaching confidence by total treatment group or by confidence level group (low, medium or high).

Student teachers were blocked on confidence pretest scores in low, medium and high level teaching confidence groups and measured on posttest scores using analysis of variance to determine answers to the research questions on teaching confidence. An F ratio of .26223 (P.05 > 3.34) indicated no significant difference among treatment groups in improvement of teaching confidence although all treatment groups improved in teaching confidence. An F ratio of 12.79974 showed a significant difference (P.05 > 3.34) in teaching confidence among confidence level groups. Interaction effect between treatment and confidence was not significant at an F ratio of .61390 (P.05 ≥ 2.725).

Based on the preceding results, the three supervisory methods did not differ significantly (by total treatment or confidence level group) in terms of the student teachers'
posttest confidence scores.

Satisfaction with Supervisory Methods

Scores obtained from a posttest Satisfaction Scale were analyzed to answer the questions related to the teaching triad's satisfaction with the three supervisory methods.

A single classification analysis of variance gave an F ratio of 3.9103 (P.05 > 3.29) which indicated there was a significant difference among the supervisory treatment groups in student teachers' satisfaction. An analysis of variance multiple range test indicated the difference was between the face-to-face and audio-phone group and the video-phone and audio-phone group. There was no difference between the face-to-face and video-phone groups. Rank order (most to least satisfaction) was face-to-face, video-phone, audio-phone supervisory groups.

Thus, the effects of the three supervisory methods were significantly different in terms of the expressed satisfaction of the student teachers.

Analysis of variance of factorial design indicated an F ratio .03578 (P.05 > .89788) which indicated there was no significant difference within confidence level groups across treatment groups of student teachers in terms of their expressed satisfaction.
There was a significant difference among the supervisory treatment groups in satisfaction. However, within the same confidence level there was no significant difference in terms of the overall satisfaction of the student teachers across treatment groups.

An F ratio of 4.7778 (P.05 ≥ 3.29) indicated a significant difference among supervisory treatment groups in terms of supervising teachers' satisfaction with the supervision from the college. The rank order from most to least satisfaction was the same as that for the student teachers: face-to-face, audio-phone, video-phone.

Analysis of variance resulted in an F ratio of 2.95294 (P.05 ≥ 4.14) which indicated no significant difference between student teachers and supervising teachers in terms of satisfaction. Consequently, there was agreement between student teachers and the supervising teachers within the same supervisory treatment groups on satisfaction with the college supervision received.

The college supervisors' satisfaction with the three supervisory methods was tested by analysis of variance on satisfaction scores. An F ratio of 2.346 (P.05 ≥ 5.14) showed no significant difference. There was, however, a direction toward more satisfaction expressed for the face-to-face method of supervision.
In terms of money resources, cost was comparative when schools and universities were equipped with the educational media needed. Timewise, the face-to-face method of supervision took approximately seven hours more per student teacher than the other two methods. It is necessary to weigh the advantages of each method of supervision against the resources expended.

These findings offer positive support for the feasibility of the alternative methods (face-to-face, audio-phone and video-phone) of college supervision of student teachers.
Implications

The use of the three methods of college supervision, face-to-face, audio-phone and video-phone, are feasible and offer implications for their use in teacher education programs.

1. The data in totality suggest there are definite advantages to each method of supervision in its own right. Time and money resources expended for each method, again indicate advantages specific to each method. Thus, while a possible "combination supervisory method" utilizing all three methods is suggested, there is definite evidence that depending on the particular student teacher and the student teaching situation, each method could be used independently. The use of face-to-face supervision utilizes the advantages of immediate feedback, personal rapport established between members of the teaching triad, observation of a realistic classroom situation in which pupil reaction is evident, and observing the student teacher's physical appearance, personality and use of teaching resources. The video-phone supervisory method would make use of the advantages of an increased number of contacts, a wide sampling of the student teacher's lessons, supervisory feedback that is objective, increased opportunity for student teacher self-evaluation, relief
of tension (caused by college supervisor "dropping in"), conferences wherein student teacher emotional involvement is not excessive and incentive for careful planning of lessons. Advantages emphasized when use is made of the audio-phone supervisory method are the increase of objective evaluation, use of self-evaluation, greater number of college supervisor contacts, less pressure on the student teacher, and observation of verbal interaction between student teacher and pupils.

2. The use of a critique form for evaluating a teaching technique adds a directed focus to the supervisory conference in all methods of supervision.

3. Evidence from the study supports use of all three methods of supervision for improvement in teaching skill and teaching confidence. Choice of a specific method would depend on the circumstances. Data suggest use of a "combination" supervisory procedure. This might involve use of all three methods with an individual student teacher. A suggested procedure might be to use them in the following order after a thorough orientation session: (1) face-to-face with one observation contact in the school, (2) video-phone and (3) audio-phone with additional explanatory comments added after the lesson was taped.
4. Maximizing the objectivity of supervision in the evaluation of student teachers may increase the emphasis on the content and process of learning. The data suggest that there are three major areas of concern with which those in the teaching triad are responsible during the student teaching experience. These are the content of learning, the process of learning and the visual or physical aspects of the teaching-learning situation. The question raised is, are they equal?

5. Regardless of the supervisory method used, it is essential that either the college supervisor or the supervising teacher provide student teachers with immediate feedback of teaching results. The need for immediate feedback, with interest in self-evaluation, was expressed by the student teachers.

6. The supervising teacher might assume responsibility for continuous evaluation of the visual and physical aspects of the student teaching situation as well as the lesson content and teaching techniques; whereas, the college supervisor, during her limited contacts, might profitably assume the role of a resource person, coordinator of student teaching activities, and appraiser of overall achievement. Thus, the role of the college supervisor could be clarified for all members of the triad.
7. The development of confidence on the part of the student teacher might be influenced by minimizing the sources of pressure on the student teacher through varying or individualizing the supervisory methods for individual students dependent upon the student teaching situation.

8. The data on satisfaction suggest that procedures worked out to the satisfaction of the teaching triad might enhance the effectiveness of the partnership with the schools in this vital task of teacher education.

9. Since college supervision is a key facet of teacher education programs, the use of media resources now available, provide the means whereby alternative methods of college supervision are possible. The use of the alternative methods of college supervision, face-to-face, audio-phone and video-phone are feasible. It is now within the realm of the innovative and committed college supervisor to choose a supervisory style and then select the media that would be most effective for the particular student teacher being supervised.
APPENDIX A

PRE-ACTIVE PHASE

1. Administrator's Letter
2. Check Sheet for Administrators
3. List of Administrators
4. List of College Supervisors and Research Staff
5. List of Student Teachers and Supervising Teachers
6. Student Teacher's Introductory Letter
7. Agenda for Administrators - Supervisors - Research Orientation Meeting
Mr. John E. Savel, Superintendent  
Hamilton Township High School  
4999 Lockbourne Road  
Columbus, Ohio  43207

Dear Mr. Savel:

We were pleased to learn that Hamilton Township High School will be cooperating with our division by permitting us to place a student teacher in home economics during the Winter Quarter, January 6 to March 7, 1969.

During the Winter Quarter the Home Economics Education Faculty will be cooperating with the staff at The Center for Vocational and Technical Education in conducting a research project concerned with the feasibility of remote supervision of student teachers. For this remote supervision we need your permission for the use of a hands free telephone in your school at our expense. Audio or videotape recordings will be used to enhance student supervisory conferences during this experiment.

If you need more information before completing the enclosed check sheet, call (collect): Miss Patricia M. Smith - Project Leader  
Telephone - 614-293-7761

You and your principal are invited to attend an orientation meeting at The Ohio State University on December 5 from 9:00 a.m. - 10:30 a.m. to be held at The Center for Vocational and Technical Education at 1900 Kenny Road.

The Home Economics Faculty is concerned with providing the most satisfactory type of supervision for their student teachers. By exploring different types of supervisory methods, it is hoped that the most effective method or alternative method can be discovered. We sincerely hope that you and your staff will join us in this cooperative research project at The Ohio State University.

Sincerely yours,

Marie Dirks, Chairman  
Home Economics Education Division

Encl.

cc: Mr. John A. Ruehling, Principal  
Mrs. Nancy Thomas, Supervising Teacher
**CHECK SHEET FOR ADMINISTRATORS**

*Instructions: Please check or fill in the appropriate blanks for the information requested. Return as soon as possible.*

May we video record the student teacher's lessons for purposes of supervisory feedback? Yes [ ] No [ ]

**Media Information Needed by the Research Staff**

<table>
<thead>
<tr>
<th>An audio tape recorder in the school</th>
<th>is available [ ]</th>
<th>is not available [ ]</th>
</tr>
</thead>
</table>

---

Our audio tape recorder has the following characteristics:

a. Brand Name: ____________________________

b. Tape: Reel [ ] Cartridge [ ]

c. Playing time of tape: __________ hour ________ minutes

d. Availability for student teacher use:
   - Anytime [ ]
   - Anytime but must be scheduled [ ]
   - At least twice a week for a half-day period [ ]
   - Other: Specify ______________________

---

A school video (closed circuit TV) recorder is available [ ]

---

Our video recorder has the following characteristics:

a. Brand Name: Ampex [ ] Sony [ ] Panasonic [ ] G.E. Tri Pack [ ]
   - Concord [ ] Other - Identify

b. Size tape: one inch [ ] one-half inch [ ]

c. Availability for student teacher use:
   - Anytime [ ]
   - Anytime, but must be scheduled [ ]
   - Twice a week/half-day at a time [ ]
   - Other: Specify ______________________

---

**Hands Free Telephone**

May we install the hands free phone? Yes [ ] No [ ]

To install the hands free phone, we need to know whom to contact.

Name: ____________________________

Position: ____________________________

Name of school: ____________________________

Address: ____________________________

Telephone: ____________________________

Comments or Questions: (use reverse side if necessary)

---

Signature: ____________________________
List of Invited Participants - December 5, 1968

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<thead>
<tr>
<th>Admin. - Superintendents</th>
<th>Principals</th>
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<td>John R. Watkins</td>
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<td>John E. Savel</td>
<td>Gordon E. Oxley</td>
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<td>Richard H. Rannells</td>
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<td>Arthur J. Crisp</td>
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<td>Donald Jerry</td>
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<td>John Hardin</td>
<td>Harold K. Dahill</td>
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E. D. Belville
J. S. Short
R. P. Heischman
C. J. Roberts
Roy E. Schmunk
Bennis Lutz
F. O. Ellsworth
H. C. McDermott
H. C. McCord
Earl E. Hogan
Spencer E. Douglas
John J. Henn

Dwight Spencer
Gordon E. Oxley
Loyd Chalfin
Icle Davis
Hubert Hintoni
Guy M. Foster
Edwin Parrott
Jim Midlam
Joseph Endry
R. A. Barger
Edward Ervine
Donald Jerry
Harold K. Dahill
Louis Koloze
Joseph E. Daley
College Supervisors

Dr. Marie Dirks
Dr. Julia Boleratz*

Mrs. Lena Bailey
Mrs. Mary Andrian*
Mrs. Twyla Ridder*

Staff - Phase 8

Dr. Calvin J. Cotrell
Dr. Julia I. Dalrymple
Dr. Charles Doty

Miss Patricia Smith
Mrs. Shirley Chase
Mr. Fred Harrington

*College Supervisors involved in the study.
## Winter Quarter 1969

### Student Teachers and Supervising Teachers

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<td>Sondra Basinger</td>
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<td>Lavina Busch</td>
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<td>Margaret Clingo</td>
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Home Economics Education
Supervisor Student Teacher Conference
September, 1968

To: Student Teachers
From: Marie Dirks

You have an opportunity to be involved in a project to improve supervision in Home Economics Education at OSU. During the Winter Quarter the Home Economics Education Faculty will be cooperating with the staff at the Center for Vocational and Technical Education in conducting a research project concerned with the feasibility of remote supervision of student teachers. The present study asks: What are the alternatives in the provision of effective and satisfying guidance and evaluation within reasonable limits? We want this important aspect of our student teaching program to be as effective as possible. One way to do this is to explore differing types of supervisory methods.

How will you, the student teacher, be involved? Each student teacher will be randomly assigned to one of the three alternative methods of supervision. Your assignment to a particular method of supervision will be determined and made known to you before your student teaching experience begins. After the Winter Quarter student teaching locations are approved by all administrators and cooperating teachers concerned, steps will be taken for initiating the necessary plans for experimentation.

You, as the student teacher, will be a vital and important participant in this project. You will be given full recognition for your part in this experiment. Students who have participated in similar situations have reported that they gained personally from this experience. The major aim of the Home Economics Faculty is that you have the kind of student teaching experience that will be most satisfactory for you. Incorporated into the Winter Quarter student teaching experience will be some innovations in supervisory techniques to make this possible.
ADMINISTRATORS-SUPERVISORS RESEARCH ORIENTATION MEETING
December 5, 1968 - The Center

THE AGENDA

9:00 - 9:30  Registration
Get Acquainted Coffee Session - Hostess -
Mrs. Shirley Chase and H. Ec. Educ. Faculty

9:30 - 9:40  Welcome
Role of Administrators and Teachers in the Public Schools in On-Going Research

   Dr. Robert E. Taylor

9:40 - 9:50  Overview of the Cooperative Research Project
Introduction of the Research Staff

   Dr. Calvin J. Cotrell

9:50 - 10:40  Presentation of the Major Points of the Study-
The Feasibility of Remote Supervision

   Miss Patricia M. Smith

10:40 - 10:50  Welcome
Introduction of Home Ec. Educ. Faculty Members

   Dr. Marie Dirks

10:50 - 11:15  Home Economics Presentation - The Relevance of Home Economics Methods Course

   Mrs. Lena Bailey

11:30 - 1:00  Lunch

AFTERNOON SESSION

1:00 - 2:30  Training Session for College Supervisors and Supervising Teachers: Viewing and Critiquing Video Recordings of Teaching Techniques

   Dr. Charles Doty

2:30 - 3:30  The specifics (Method and Procedure) of Each Supervisory Method

   Mrs. Shirley Chase - Face-to-Face
   Patricia Smith - Audio-Phone
   Dr. Charles Doty - Video-Phone
APPENDIX B

EQUIPMENT

1. Training Session for Video-Phone Supervision Group
2. Operating Instructions for Shibaden Video Tape Recorder
3. Instructions for Use of Solid State Telephone Amplifier
TRAINING SESSION FOR VIDEO-PHONE
SUPERVISION GROUP

Purpose: To learn how to operate the Shibaden Video-Tape recording equipment.

Date: November 26, 1968 (Tuesday morning)

Time: 9:00 - 10:00; 10:00 - 11:00; 11:00 - 12:00

Place: Lord Hall, Room 107

Director: Fred Harrington, Research Associate, The Center for Vocational and Technical Education

Students Involved
1. Kay Lovett
2. Cheryl Starner
3. Charlotte Sent
4. Marilyn Ware
5. Pat Moriarty
6. Ellen Wells
7. Sondra Basinger
8. Jean Brissenden
9. Linda McFadden
10. Carol Pemberton
11. Cinda Yarger
12. Jan Nichols
OPERATING INSTRUCTIONS

SHIBADEN SV-700 VIDEO TAPE RECORDER

I GENERAL

1. Read all instructions before operating the equipment.

2. Underlining denotes connections or controls.

3. Parentheses denote labels not actually on the equipment (only on the illustrations).

II TO SET UP EQUIPMENT

1. Connect the coax cable (round ends) from camera's VIDEO OUT (figure B) to video tape recorder's CAMERA (figure C).

2. Connect a cable (rectangular ends) from video tape recorder's TV (figure C) to television's VTR (figure D).

3. Plug the microphone into the video tape recorder's MIC IN (figure C).

4. Plug the video tape recorder (AC IN - figure C) into an AC outlet.

5. Plug the television and camera into the video tape recorder's AC OUT (figure C).

6. Push the television's ON button (figure E).

7. Thread the video tape recorder (recorder off, figure A).

8. Push the video tape recorder's POWER SWITCH on (figure A).

9. Switch the camera ON (figure B, POWER ON).

10. Aim the camera at an object - remove lens cover.

11. Place the camera's ALC-MANUAL switch in the ALC position (figure B).

12. Adjust the camera's FAR NEAR (FOCUS) for a sharp picture on the television (figure B).

13. Set the video tape recorder's (COUNTER) to 000 (figure A); push button down.
14. (a) Move the video tape recorder's (CONTROL KNOB) to F.F. (fast forward) position.
(b) Move the (CONTROL KNOB) back to stop when the (COUNTER) reaches 040.
(c) Reset the (COUNTER) to 000.

III TO RECORD
1. Place the television's VTR-TV switch in the VTR position (figure D).
2. Place the video tape recorder's CAMERA-TV knob in the CAMERA position (figure A).
3. Push the video tape recorder's AUDIO-VIDEO-METER (CONTROL) DOWN to VIDEO and adjust the video tape recorder's VIDEO (larger of two concentric knobs) so that the (VU-METER'S) red pointer stays just left of the zero. (figure A).
4. Push the video tape recorder's AUDIO-VIDEO-METER (CONTROL) DOWN to AUDIO. Speak normally into the microphone and adjust the video tape recorder's AUDIO (smaller of two concentric knobs) so that the majority of the time, the (VU-METER'S) red pointer stays to the left of the zero. (figure A).
5. Hold down the video tape recorder's red REC button and move the (CONTROL KNOB) to PLAY. The red button must stay down. (figure A)
6. (a) Proceed with the teaching session.
(b) Recheck steps 3 & 4 of III.
7. To stop recording the teaching session, move the (CONTROL KNOB) to the STOP position.

IV TO REPLAY TAPE
1. (a) Move the video tape recorder's (CONTROL KNOB) to Rew (rewind) (figure A).
(b) Move the (CONTROL KNOB) to stop at the desired (COUNTER) number.
2. (a) Move the (CONTROL KNOB) to PLAY
(b) Adjust the video tape recorder's TRACKING knob for the best picture on the television.
(c) Adjust the television's VOLUME knob for the desired sound level.

V NOTES
1. The video tape recorder's AUDIO ONLY button is not used for normal recording. This button allows post-session audio narration.
2. The television will work on any channel.
3. The camera's TARGET, BEAM, and FOCUS controls as well as the RF output are not used.
FIGURE A  SHIBADEN SV-700 VIDEO TAPE RECORDER

FIGURE B  HV-14 SHIBADEN CAMERA
**FIGURE C** REAR OF VIDEO TAPE RECORDER

**FIGURE D** REAR OF TELEVISION (SHIBADEN MODEL TU-12UL)

**FIGURE E** FRONT OF TELEVISION
Solid State Telephone Amplifier

Parts List

Main Amplifier: largest part with cord
Speaker: square-faced box with hole on back
Cradle bracket: small angle-shaped part

Operation

A. Set Up
1. Place the amplifier on a desk or table with the open end ("Direct your voice here" - end) to your left and near the telephone.
2. Mount the cradle bracket into the top surface of the amplifier by inserting the notched end of the bracket (brand name toward the right side) into the slot as far as it will go, and then let the bracket drop downward so that it RESTS on the round plunger button.
3. Plug the cord from the amplifier snugly into the rear of the speaker.
4. Place the speaker in a convenient spot to the RIGHT of the amplifier and separated from the amplifier by the FULL LENGTH of the connecting cord.

B. Receiving a Call
1. Pick up the receiver and place it on the cradle bracket so that the receiver's ear end (cord-less end) fits into the round hole in the amplifier.
2. Adjust the incoming voice on the speaker for comfortable volume by regulating the dial on the top of the amplifier and eliminating the squeal.
3. Speak toward the "direct your voice here" end of the amplifier.

C. To Hang Up (and turn off the amplifier)
Remove the receiver from the amplifier and return it to the telephone

D. To Make a Call
Pick up the receiver, dial the number and place the receiver on the amplifier cradle.
APPENDIX C

SUPERVISORY METHODS

1. Suggested Procedural Steps for Face-to-Face Supervision
2. Suggested Procedural Steps for Audio-Phone Supervision
3. Suggested Procedural Steps for Video-Phone Supervision
Suggested Procedural Steps for
Face-to-Face Supervision

<table>
<thead>
<tr>
<th>Student Teacher</th>
<th>Supervising Teacher</th>
<th>College Supervisor</th>
</tr>
</thead>
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1. **Observation**
   - **Teaching**
   - **Scheduling**

2. **Observation/Teaching**
   - **Teaching/Observation**
   - **Planning**
   - **Schedule visit**

3. **Man. Skill Demonstration**
   - **Use Critique Form I**
   - **3-way Conference using Critique Form I**
   - **as Basis for Discussion**

4. **Critique Skill using the**
   - **Critique Form I**
   - **Conferences**

5. **Teaching**
   - **Observation**

6. **Teaching**
   - **Observation**
   - **Observation**
   - **3-way conference**

7. **Observation**
   - **Planning**
   - **Schedule visit**

8. **Man. Skill Demonstration**
   - **Use Critique Form I**
   - **Observation**

9. **3-way Conference using Critique Form I**
   - **as Basis for Discussion**

---

**March 7, 1969**

- **Post Confidence Score**
- **Satisfaction Scale**

- **Post Video Tape**
- **Demonstrating a**
- **Manipulative Skill**
Suggested Procedural Steps for Audio-Phone Supervision

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March 7, 1969

- Post-Confidence Scale
- Satisfaction Scale
- Post Video Tape: Demonstrating a Manipulative Skill

* = Any lesson or a portion of a lesson
** = Demonstration of a manipulative skill.
**Suggested Procedural Steps**

*for Video-Phone Supervision*

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<td><strong>Teaching</strong></td>
<td><strong>Observation</strong></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td><strong>Planning</strong></td>
</tr>
<tr>
<td></td>
<td>3-way phone conference</td>
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<tr>
<td></td>
<td>Review Tape 2</td>
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<tr>
<td></td>
<td><strong>Mail Tape 2</strong></td>
<td><strong>Receive Tape 2</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Teaching</strong></td>
<td><strong>Observation</strong></td>
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<tr>
<td>4</td>
<td></td>
<td><strong>Planning</strong></td>
</tr>
<tr>
<td></td>
<td>Make Tape 2**</td>
<td></td>
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<tr>
<td></td>
<td>for discussing Tape 1</td>
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<td></td>
<td><strong>Review Tape 2</strong></td>
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<tr>
<td></td>
<td>and use Critique Form I</td>
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<tr>
<td></td>
<td><strong>Mail Tape 3</strong></td>
<td><strong>Receive Tape 3</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Teaching</strong></td>
<td><strong>Observation</strong></td>
</tr>
<tr>
<td>5</td>
<td>Use Critique Form I</td>
<td>**Critique demonstra-</td>
</tr>
<tr>
<td></td>
<td>Conference</td>
<td>tion skill using</td>
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<td>3-way phone conference</td>
<td><strong>Critique Form I</strong></td>
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<td>for discussing Tape 2</td>
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<td></td>
<td>using Critique Form I</td>
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<tr>
<td></td>
<td>Make Tape 3*</td>
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<td></td>
<td><strong>Review Tape 3</strong></td>
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<tr>
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<td>Week</td>
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<td>Supervising Teacher</td>
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<td>Observation</td>
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<td></td>
<td>3-way phone conference for discussing Tape 3</td>
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<td>Make Tape 4**</td>
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<td></td>
<td>Review Tape 4</td>
<td></td>
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<tr>
<td></td>
<td>and use Critique Form I</td>
<td></td>
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<tr>
<td></td>
<td>Mail Tape 4</td>
<td></td>
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<td>7</td>
<td>Teaching</td>
<td>Observation</td>
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<td></td>
<td>3-way phone conference for discussing Tape 4 using Critique Form I</td>
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<td>Make Tape 5*</td>
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<td>Review Tape 5</td>
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<td>Mail Tape 5</td>
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</tr>
<tr>
<td></td>
<td>Use Critique Form I</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Teaching</td>
<td>Observation</td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
<td>3-way phone conference for discussing Tape 5</td>
<td></td>
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<td>Teaching</td>
<td>Observation</td>
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<td></td>
<td>3-way phone conference for evaluation</td>
<td></td>
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<td></td>
<td>March 7, 1969</td>
<td></td>
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<tr>
<td></td>
<td>Post-Confidence Scale</td>
<td></td>
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<tr>
<td></td>
<td>Satisfaction Scale</td>
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<td></td>
<td>Post Video Tape:</td>
<td></td>
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<tr>
<td></td>
<td>Demonstrating a Manipulative Skill</td>
<td></td>
</tr>
</tbody>
</table>

* = Any lesson or a portion of a lesson  
** = Demonstration of a manipulative skill
APPENDIX D

INSTRUMENT

1. Confidence Scale
2. Critique Form I
3. Instruction for Completion of Satisfaction Scale
4. Satisfaction Scale A (Supervising Teacher)
5. Satisfaction Scale B (College Supervisor)
6. Satisfaction Scale C (Student Teacher)
7. Questionnaire Section of Satisfaction Scale
Confidence Scale*

Directions: Place an X before the word or words that most nearly describe your feelings about each of the nine statements below.

1. I am confident that I have the skills necessary to work effectively with pupils in small groups.

   Very Confident
   Confident
   Uncertain
   Very Uncertain

2. I am confident that I have the skills necessary to work effectively with pupils in large groups (entire class).

   Very Confident
   Confident
   Uncertain
   Very Uncertain

3. I am confident that I have the skills necessary to maintain the interest of a class.

   Very Confident
   Confident
   Uncertain
   Very Uncertain

4. I am confident that I possess the necessary skills to cope with individual discipline problems.

   Very Confident
   Confident
   Uncertain
   Very Uncertain

5. I am confident that I possess the necessary skills required to cope with group discipline problems.

   Very Confident
   Confident
   Uncertain
   Very Uncertain

6. I am confident that I know how to study individual pupil and school records carefully as a basis for evaluating pupil behavior and progress.

____ Very Confident
____ Confident
____ Uncertain
____ Very Uncertain

7. I am confident that I understand the problems of the students I teach.

____ Very Confident
____ Confident
____ Uncertain
____ Very Uncertain

8. I am confident that I have the necessary skills to deal appropriately with unexpected situations as they develop.

____ Very Confident
____ Confident
____ Uncertain
____ Very Uncertain

9. I am confident that I will enjoy my first teaching position.

____ Very Confident
____ Confident
____ Uncertain
____ Very Uncertain

Name ________________________________

Date ________________________________
Critique Form I

Vocational and Technical Teacher Education
Project #44
Phase 8

The Center For
Vocational and Technical Education
The Ohio State University

Manipulative Skill (Skill #3)

Note: These critique forms have been developed and used by The Center in evaluating teaching techniques in a micro-teaching research project. The teacher, in this case, is the student teacher.

Form developed by the staff of Project 44, Assessment of Microteaching and Video Recording in Vocational and Technical Education, The Ohio State University and adapted for use by the Division of Home Economics Education, College of Agriculture and Home Economics, The Ohio State University, Columbus, Ohio.
Critique Form I
Demonstrating a Manipulative Skill

In helping you to learn an occupation, your teachers will be presenting new manipulative skills to you through a method of teaching known as the demonstration. If the teacher has given a good demonstration and you have been a good observer and listener, you should be ready to attempt to perform the manipulative skill safely and step by step.

The following items will be used by you to evaluate your teacher's teaching. If the teacher did not accomplish the item, you will only mark "Did Not Accomplish". If the teacher did accomplish the item, you will mark "Accomplished" and then mark the column which describes how well the teacher "accomplished" the item.

Did the Teacher in the Demonstration:

1. Have all equipment, tools and materials ready for use?

2. Talk to you and not to the tools or materials: (Note: In some demonstrations; for example, one where the teacher has a machine running, he must keep his attention on the machine, but he also can make you feel he is directing his attention to you.)

3. Present each step of the procedure, task, skill, or operation in the proper sequence?

4. Briefly state what step is to be performed, how and why it is performed, then perform it?

<table>
<thead>
<tr>
<th>Did the Teacher in the Demonstration</th>
<th>Degree of Accomplishment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did Not Accomplish</td>
<td>Poor</td>
</tr>
<tr>
<td>Accomplished</td>
<td>Very Poor</td>
</tr>
<tr>
<td></td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>Excellent</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1. Have all equipment, tools and materials ready for use?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Talk to you and not to the tools or materials: (Note: In some demonstrations; for example, one where the teacher has a machine running, he must keep his attention on the machine, but he also can make you feel he is directing his attention to you.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Present each step of the procedure, task, skill, or operation in the proper sequence?</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>4. Briefly state what step is to be performed, how and why it is performed, then perform it?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>
5. Position himself or you so that each step was easily seen, using visual aids to make clear any step that could not be clearly demonstrated?

6. Present only one method of doing the operation giving only key points of information necessary to complete the task safely and efficiently? (Or did the instructor present two or more methods of giving additional information (stories) which confused you.)

7. Perform the manipulative skill with ease?

Comments: (What can the teacher do to improve the demonstration in the lesson)

Teacher ___________________________ Date ________________

Observer __________________________

Note: This critique form was developed and used by The Center for Vocational and Technical Education in the Micro-Teaching Project - No. 44.
SATISFACTION SCALE *  
FOR  
EXPRESSION OF SATISFACTION WITH SUPERVISION

The purpose of this Satisfaction Scale is to allow you to rate the following statements which best describe your feelings of satisfaction and/or dissatisfaction with the method of supervision in which you were involved this quarter. (Three methods were used (1) face-to-face supervision, (2) audio-phone supervision, and (3) video-phone supervision.)

Even though we have asked for your name at the top of this form (later to be coded), this scale will be treated as confidential material by the research staff, in that, the names of persons and schools will not be identified with particular ratings at any time to anyone.

**DIRECTIONS:** When completing the Satisfaction Scale, think in terms of the method of supervision in which you were involved. You are to rate the statements on a 9 point scale, circling the number 9 for those statements you consider extremely characteristic with respect to the method of college supervision in which you were involved, and circle 1 for those statements you believe to be extremely uncharacteristic to this method of college supervision.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely Uncharacteristic</td>
<td>Relatively Neutral</td>
<td>Extremely Characteristic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fairly Uncharacteristic</td>
<td>Fairly Characteristic</td>
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<td></td>
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</tbody>
</table>
CAUTIONS:
Always repeat the following phrase before reading each statement:

"The method of college supervision in which I was involved this quarter:"

Then circle the number which best describes your rating for each statement in the column on the right as shown in the example below.

1. helped me to look objectively at the student teacher's teaching.

*The Q-Sort for Satisfaction with Supervision was developed by Dalrymple and White for a pilot study in remote supervision of student teachers at the University of Wisconsin (1965) and adapted for use by the Division of Home Economics Education at Ohio State University.
SATISFACTION SCALE A
FOR
EXPRESSION OF SATISFACTION WITH SUPERVISION

The method of college supervision
in which I was involved this quarter:

1. helped me to look objectively at
   the student teacher's teaching. 1 2 3 4 5 6 7 8 9
2. caused me to be quite apprehensive
   during the first several weeks. 1 2 3 4 5 6 7 8 9
3. allowed no opportunity for recognition
   from the college supervisor when the
   student teacher deserved it. 1 2 3 4 5 6 7 8 9
4. stimulated me to do my best work. 1 2 3 4 5 6 7 8 9
5. helped the student teacher to integrate
   educational theory with her classroom
   teaching. 1 2 3 4 5 6 7 8 9
6. provided an adequate number of contacts
   between the college supervisor and myself. 1 2 3 4 5 6 7 8 9
7. made it easy for me to contact the supervisor
   whenever necessary. 1 2 3 4 5 6 7 8 9
8. was an unsatisfactory method of supervision
   for our particular student teacher situation. 1 2 3 4 5 6 7 8 9
9. was oriented toward identifying the student
   teacher's failures. 1 2 3 4 5 6 7 8 9
10. established a relaxed, open confidence
    between the college supervisor and myself. 1 2 3 4 5 6 7 8 9
11. encouraged the student teacher and myself
    to feel like co-educators along with the
    college supervisor. 1 2 3 4 5 6 7 8 9
12. left my student teacher and myself in doubt
    about what was expected of us. 1 2 3 4 5 6 7 8 9
13. allowed for private communication between
    myself and the college supervisor. 1 2 3 4 5 6 7 8 9
14. caused me to be quite apprehensive during
    the last few weeks. 1 2 3 4 5 6 7 8 9
15. considered mutual convenience of time of all
    participants in the arrangement of supervisory
    contacts. 1 2 3 4 5 6 7 8 9
The method of college supervision in which I was involved this quarter:

16. helped the student teacher to place her problems in their proper perspective. 1 2 3 4 5 6 7 8 9
17. allowed the student teacher to feel successful. 1 2 3 4 5 6 7 8 9
18. limited the college supervisor's opportunity to gain a representative picture of the student teacher's teaching experience. 1 2 3 4 5 6 7 8 9
19. included factors which were somewhat disturbing to the pupils in the classes. 1 2 3 4 5 6 7 8 9
20. required excessive preparation for supervisory contacts. 1 2 3 4 5 6 7 8 9
21. required more of my time than seemed necessary. 1 2 3 4 5 6 7 8 9
22. stimulated self-analysis of my own performance. 1 2 3 4 5 6 7 8 9
23. needed more contacts between the college supervisor and myself. 1 2 3 4 5 6 7 8 9
24. de-emphasized guidance and evaluation. 1 2 3 4 5 6 7 8 9
25. was a frustrating procedure for me. 1 2 3 4 5 6 7 8 9
26. improved relationships between the university and our school. 1 2 3 4 5 6 7 8 9
27. limited the student teacher's freedom to explore various approaches to teaching. 1 2 3 4 5 6 7 8 9
28. helped the student teacher to strengthen specific teaching skills. 1 2 3 4 5 6 7 8 9
29. resulted in a superficial evaluation of the student teacher's teaching. 1 2 3 4 5 6 7 8 9
30. was highly satisfying once working relations and procedure were established. 1 2 3 4 5 6 7 8 9
31. created a tense atmosphere between the college supervisor and the student teacher. 1 2 3 4 5 6 7 8 9
32. helped the student teacher to improve her teaching. 1 2 3 4 5 6 7 8 9
SATISFACTION SCALE B
FOR
EXPRESSION OF SATISFACTION WITH SUPERVISION

The method of college supervision in which I was involved this quarter:

1. helped me to look objectively at the student teacher's teaching. 1 2 3 4 5 6 7 8 9
2. caused me to be quite apprehensive during the first several weeks. 1 2 3 4 5 6 7 8 9
3. allowed no opportunity for recognition from me when the student teacher deserved it. 1 2 3 4 5 6 7 8 9
4. stimulated me to do my best work. 1 2 3 4 5 6 7 8 9
5. helped the student teacher to integrate educational theory with her classroom teaching. 1 2 3 4 5 6 7 8 9
6. provided an adequate number of contacts between the student teacher and supervising teacher and myself. 1 2 3 4 5 6 7 8 9
7. made it easy for me to contact the student teaching center whenever necessary. 1 2 3 4 5 6 7 8 9
8. was an unsatisfactory method of supervision for this particular student teaching situation. 1 2 3 4 5 6 7 8 9
9. was oriented toward identifying the student teacher's failures. 1 2 3 4 5 6 7 8 9
10. established a relaxed, open confidence between the student teacher and myself. 1 2 3 4 5 6 7 8 9
11. encouraged the supervising teacher to feel like co-educators along with me. 1 2 3 4 5 6 7 8 9
12. left the supervising teacher and student teacher in doubt about what was expected of them. 1 2 3 4 5 6 7 8 9
13. allowed for private communication between myself and the supervising teacher or student teacher. 1 2 3 4 5 6 7 8 9
14. caused me to be quite apprehensive during the last few weeks. 1 2 3 4 5 6 7 8 9
15. considered mutual convenience of time of all participants in the arrangement of supervisory contacts. 1 2 3 4 5 6 7 8 9
The method of college supervision in which I was involved this quarter:

16. helped the student teacher to place her problems in their proper perspective. 1 2 3 4 5 6 7 8 9
17. allowed the student teacher to feel successful. 1 2 3 4 5 6 7 8 9
18. limited my opportunity to gain a representative picture of the student teacher's experiences. 1 2 3 4 5 6 7 8 9
19. included factors which were somewhat disturbing to the pupils in the classroom. 1 2 3 4 5 6 7 8 9
20. required excessive preparation for supervisory contacts. 1 2 3 4 5 6 7 8 9
21. required more of my time than seemed necessary. 1 2 3 4 5 6 7 8 9
22. stimulated self-analysis of my own performance. 1 2 3 4 5 6 7 8 9
23. needed more contacts between the supervising teacher and myself. 1 2 3 4 5 6 7 8 9
24. de-emphasized guidance and evaluation. 1 2 3 4 5 5 7 8 9
25. was a frustrating procedure for me. 1 2 3 4 5 6 7 8 9
26. improved relationships between the university and the student teaching center. 1 2 3 4 5 6 7 8 9
27. limited the student teacher's use of various approaches to teaching. 1 2 3 4 5 6 7 8 9
28. helped the student teacher to strengthen specific teacher skills. 1 2 3 4 5 6 7 8 9
29. resulted in a superficial evaluation of the student teacher's teaching. 1 2 3 4 5 6 7 8 9
30. was highly satisfying once working relations and procedure were established. 1 2 3 4 5 6 7 8 9
31. created a tense atmosphere between the student teacher and myself. 1 2 3 4 5 6 7 8 9
32. helped the student teacher to improve her teaching. 1 2 3 4 5 6 7 8 9
Satisfaction Scale C

For
Expression of Satisfaction with Supervision

The method of college supervision in which I was involved this quarter:

1. helped me to look objectively at my classroom teaching. 1 2 3 4 5 6 7 8 9
2. caused me to be quite apprehensive during the first several weeks. 1 2 3 4 5 6 7 8 9
3. allowed no opportunity for recognition from the college supervisor when I deserved it. 1 2 3 4 5 6 7 8 9
4. stimulated me to do my best work. 1 2 3 4 5 6 7 8 9
5. helped me to integrate educational theory with my classroom teaching. 1 2 3 4 5 6 7 8 9
6. provided an adequate number of contacts between the college supervisor and myself. 1 2 3 4 5 6 7 8 9
7. made it easy for me to contact the college supervisor whenever necessary. 1 2 3 4 5 6 7 8 9
8. was an unsatisfactory method of supervision for my particular student teaching situation. 1 2 3 4 5 6 7 8 9
9. was oriented toward identifying my failures. 1 2 3 4 5 6 7 8 9
10. established a relaxed, open confidence between the supervising teacher and the college supervisor. 1 2 3 4 5 6 7 8 9
11. encouraged the supervising teacher and myself to feel like co-educators along with the college supervisor. 1 2 3 4 5 6 7 8 9
12. left my supervising teacher and myself in doubt about what was expected of us. 1 2 3 4 5 6 7 8 9
13. allowed for private communication between myself and my college supervisor. 1 2 3 4 5 6 7 8 9
14. caused me to be quite apprehensive during the last few weeks. 1 2 3 4 5 6 7 8 9
15. considered mutual convenience of time of all participants in the arrangement of college supervisory contacts. 1 2 3 4 5 6 7 8 9
16. helped me to place my problems in their proper perspective. 1 2 3 4 5 6 7 8 9
The method of college supervision in which I was involved this quarter:

17. allowed me to feel successful.  
18. limited the college supervisor's opportunity to gain a representative picture of my teaching experiences.  
19. included factors which were somewhat disturbing to the pupils in my classes.  
20. required excessive preparation for supervisory contacts.  
21. required more of my time than seemed necessary.  
23. needed more contacts between my supervising teacher and my college supervisor.  
24. de-emphasized guidance and evaluation.  
25. was a frustrating procedure for me.  
26. improved relationships between the university and our school.  
27. limited my use of the various approaches to teaching.  
28. helped me to strengthen specific aspects of my teaching skills.  
29. resulted in a superficial evaluation of my student teaching.  
30. was highly satisfying once working relations and procedure were established.  
31. created a tense atmosphere between the college supervisor and myself.  
32. helped me to improve my teaching.
QUESTION SHEET

For your reaction:

1. What do you consider the main advantages and disadvantages of the method of supervision in which you were involved?

   Advantages           Disadvantages

2. If you were involved in this type of supervision again, what would be your suggestions for improvement of the method of supervision in which you were involved?

3. Specify any additional criticisms.
APPENDIX E

TRAINING SESSION: PANEL OF JUDGES

1. Critique From II: Demonstrating A Manipulative Skill
2. Illustration Model # 1 For Demonstrating A Manipulative Skill
3. Illustration Model # 2 For Demonstrating A Manipulative Skill
4. Illustration Model # 3 For Demonstrating A Manipulative Skill
Critique Form II  
Demonstrating A Manipulative Skill

In helping the student learn an occupation, the teacher will be presenting new manipulative skills through a method of teaching known as the demonstration. If the teacher has given a good demonstration and the student has been a good observer and listener, the student should be ready to attempt to perform the manipulative skill safely and step-by-step.

The following items will be used to evaluate the teacher's teaching. If the teacher did not accomplish the item, put an X in the box below DID NOT ACCOMPLISH. If the teacher did accomplish the item, put an X in the box which best describes HOW WELL the teacher ACCOMPLISHED the item. 

REPEAT THE FOLLOWING PHRASE BEFORE READING EACH ITEM

Did the teacher in the demonstration:

1. have all equipment, tools and materials ready for use?  

2. talk to the students and not to the tools or materials?  
   (e.g., even though keeping eyes on a machine, makes students feel teacher's attention is on them)

3. present each step of the performance, task, skill or operation in the proper sequence?  

4. briefly state what step is to be performed, how and why it is performed, then perform it?
5. position himself and the students so that each step was easily seen? (e.g., had students regroup themselves for better viewing; used visual aids when needed)

6. present one method of doing the operation or task stressing the key points so the task could be completed safely and efficiently? (e.g., did not give two or more methods; did not confuse students with unnecessary information)

7. perform the manipulative skill with ease?
ILLUSTRATION MODEL #1
FOR
DEMONSTRATING A MANIPULATIVE SKILL

(Subject: Sewing on a Button)

This summary sheet is designed to help you, the rater, compare your evaluation of this model tape with the evaluation of other panel members and teacher educators.

The illustration model is a filmed segment of a complete five minute lesson which illustrates how one teacher has demonstrated a manipulative skill. The teacher shown in this model was rated on the demonstration critique form as follows.

<table>
<thead>
<tr>
<th>Item</th>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Excellent</td>
<td>The teacher had all the materials ready for use when the demonstration started.</td>
</tr>
<tr>
<td>2</td>
<td>Poor</td>
<td>The teacher directed her attention mainly to her work, occasionally she looked over one shoulder at the student on that side.</td>
</tr>
<tr>
<td>3</td>
<td>Good</td>
<td>The teacher presented each step in the proper sequence but she did not always identify this sequence for the students.</td>
</tr>
<tr>
<td>4</td>
<td>Good</td>
<td>The teacher accomplished this item except for one point, she completed the performance of the skill before she told the students what she was doing.</td>
</tr>
<tr>
<td>5</td>
<td>Excellent</td>
<td>The teacher grouped the students so that they could see and follow her performance easily.</td>
</tr>
<tr>
<td>6</td>
<td>Excellent</td>
<td>The teacher demonstrated only one of the various methods that could have been used.</td>
</tr>
<tr>
<td>7</td>
<td>Excellent</td>
<td>The teacher did an excellent job of performing the skill.</td>
</tr>
</tbody>
</table>
This summary sheet is designed to help you, the rater, compare your evaluation of this model tape with the evaluation of other panel members and teacher educators.

The illustration model is a filmed segment of a complete five minute lesson which illustrates how one teacher has demonstrated a manipulative skill. The teacher shown in this model was rated on the demonstration critique form as follows.

<table>
<thead>
<tr>
<th>Item</th>
<th>Rating</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Excellent</td>
<td>The teacher had all the materials ready for use when the demonstration started.</td>
</tr>
<tr>
<td>2</td>
<td>Average</td>
<td>The teacher talked to the package instead of the students during a good part of the demonstration.</td>
</tr>
<tr>
<td>3</td>
<td>Excellent</td>
<td>The teacher did an excellent job of presenting each step in the proper sequence.</td>
</tr>
<tr>
<td>4</td>
<td>Excellent</td>
<td>The teacher accomplished this item very effectively.</td>
</tr>
<tr>
<td>5</td>
<td>Excellent</td>
<td>The teacher positioned herself directly in front of the students so each student could see.</td>
</tr>
<tr>
<td>6</td>
<td>Excellent</td>
<td>The teacher presented only the proper techniques for wrapping the package.</td>
</tr>
<tr>
<td>7</td>
<td>Excellent</td>
<td>The teacher performed the skill easily and skillfully.</td>
</tr>
</tbody>
</table>
ILLUSTRATION MODEL #3
FOR
DEMONSTRATING A MANIPULATIVE SKILL
(Subject: Repairing an Electrical Plug)

This summary sheet is designed to help you, the rater, compare your evaluation of this model tape with the evaluation of other panel members and teacher educators.

The illustration model is a filmed segment of a complete five minute lesson which illustrates how one teacher has demonstrated a manipulative skill. The teacher shown in this model was rated on the demonstration critique form as follows.

<table>
<thead>
<tr>
<th>Item</th>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Excellent</td>
<td>The teacher had all the materials ready for use when the demonstration began.</td>
</tr>
<tr>
<td>2</td>
<td>Excellent</td>
<td>The teacher was very effective in projecting his attention directly to the students.</td>
</tr>
<tr>
<td>3</td>
<td>Excellent</td>
<td>The teacher presented each step in the proper sequence.</td>
</tr>
<tr>
<td>4</td>
<td>Excellent</td>
<td>The teacher explained each step, illustrated it on the chalkboard and then performed it.</td>
</tr>
<tr>
<td>5</td>
<td>Excellent</td>
<td>The teacher positioned himself so that each student was able to see; he also illustrated on the chalkboard what was being done.</td>
</tr>
<tr>
<td>6</td>
<td>Excellent</td>
<td>The teacher presented only one method of doing each step.</td>
</tr>
<tr>
<td>7</td>
<td>Excellent</td>
<td>The teacher did an excellent job of demonstrating the skill with ease.</td>
</tr>
</tbody>
</table>
APPENDIX F

ITEM ANALYSIS

1. Item Analysis on Pretest Scores Critique Form II: Demonstrating A Manipulative Skill

2. Item Analysis on Posttest Scores Critique Form II: Demonstrating A Manipulative Skill
Item Analysis on Pretest Scores

Critique Form II:
Demonstrating A Manipulative Skill

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Variance</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4.8148</td>
<td>0.6687</td>
<td>0.4472</td>
<td>0.3596</td>
</tr>
<tr>
<td>2</td>
<td>3.7963</td>
<td>1.2528</td>
<td>1.5696</td>
<td>0.3970</td>
</tr>
<tr>
<td>3</td>
<td>4.6389</td>
<td>0.8103</td>
<td>0.6566</td>
<td>0.6008</td>
</tr>
<tr>
<td>4</td>
<td>4.1389</td>
<td>0.9667</td>
<td>0.9344</td>
<td>0.5083</td>
</tr>
<tr>
<td>5</td>
<td>4.2407</td>
<td>1.2009</td>
<td>1.4420</td>
<td>0.2922</td>
</tr>
<tr>
<td>6</td>
<td>4.2500</td>
<td>1.2555</td>
<td>1.5764</td>
<td>0.4190</td>
</tr>
<tr>
<td>7</td>
<td>4.3056</td>
<td>1.0581</td>
<td>1.1196</td>
<td>0.4408</td>
</tr>
<tr>
<td>Total</td>
<td>4.3056</td>
<td>1.0581</td>
<td>1.1196</td>
<td>0.6753</td>
</tr>
</tbody>
</table>
Item Analysis on Posttest Scores

Critique Form II:
Demonstrating A Manipulative Skill

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Variance</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4.8611</td>
<td>0.6003</td>
<td>0.3603</td>
<td>0.0854</td>
</tr>
<tr>
<td>2</td>
<td>4.6019</td>
<td>0.7569</td>
<td>0.5730</td>
<td>0.1786</td>
</tr>
<tr>
<td>3</td>
<td>4.6574</td>
<td>0.9345</td>
<td>0.8734</td>
<td>0.6549</td>
</tr>
<tr>
<td>4</td>
<td>4.4537</td>
<td>0.9563</td>
<td>0.9145</td>
<td>0.7924</td>
</tr>
<tr>
<td>5</td>
<td>4.7407</td>
<td>0.7499</td>
<td>0.5624</td>
<td>0.3780</td>
</tr>
<tr>
<td>6</td>
<td>4.5741</td>
<td>0.9926</td>
<td>0.9853</td>
<td>0.6576</td>
</tr>
<tr>
<td>7</td>
<td>4.6296</td>
<td>0.8454</td>
<td>0.7147</td>
<td>0.7212</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>0.7903</td>
</tr>
</tbody>
</table>
APPENDIX G

RECORDING FORMS

1. Remote Supervision Reimbursement Forms
2. Remote Supervision of Student Teachers - Phone Record Sheet
3. Observation Record - Face-to-Face Supervision
4. Observation Record - Audio-Phone Supervision
5. Observation Record - Video-Phone Supervision
Remote Supervision

Reimbursement Forms

<table>
<thead>
<tr>
<th>Date</th>
<th>Purpose</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Mileage Readings</th>
<th>Total @9¢</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Other Expenses

<table>
<thead>
<tr>
<th>Date</th>
<th>Purpose</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<tr>
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<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOTALS: Postage: _____  Travel: _____  Other: _____
Signed: ____________________________  School: ________________________
Final Total  Address: ____________________________
Reimbursement: _____  Date: ________________________
Remote Supervision of Student Teachers

NAME

PHONE RECORD SHEET

Directions: Keep a account of all phone calls made in connection with remote supervision.

<table>
<thead>
<tr>
<th>DATE</th>
<th>TO WHOM</th>
<th>TEL.#</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


### Face-to-Face Supervision

<table>
<thead>
<tr>
<th>Student Teacher</th>
<th>School</th>
<th>Date</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Class/Gr.</th>
<th>Lesson</th>
<th>Content &amp; Method</th>
<th>Notes &amp; Comments</th>
</tr>
</thead>
</table>

**Suggestions for Improvement:**
1.
2.
3.

**Date for next observation visit:**

---

**FACE-TO-FACE SUPERVISION**

<table>
<thead>
<tr>
<th>College Specific</th>
<th>Supervisor</th>
<th>Date</th>
<th>Skill</th>
<th>General</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Teacher</td>
<td>Supervising Teacher</td>
<td>Tel.#</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TRAVEL RECORD**

<table>
<thead>
<tr>
<th>Departed from Col.</th>
<th>Arrived at School</th>
<th>Arrived at Col.</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mileage</td>
<td>Time</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CONFERENCE TIME RECORD**

<table>
<thead>
<tr>
<th>Supervising Teacher</th>
<th>Student Teacher 3-Way Conference</th>
<th>TOTAL</th>
</tr>
</thead>
</table>

**Expense Record**

<table>
<thead>
<tr>
<th>Total Mileage @ 9c</th>
<th>Lunch, etc.</th>
<th>Other</th>
<th>TOTAL EXPENSES</th>
</tr>
</thead>
</table>

**OTHER TIME INVOLVED**

<table>
<thead>
<tr>
<th>TOTAL TIME INVOLVEMENT</th>
</tr>
</thead>
</table>

---
AUDIO-PHONE SUPERVISION

Student Teacher _______ Supervising Teacher _______ Date _______ Tel. _______

Tape# _______ No. Placement on Tape _______ Date: Received _______ Reviewed _______ Returned _______

Supervisor's Suggestions for Improvement

1. _______

2. _______

3. _______

Phone Conference Scheduled for:

Suggested Date/Time for next conference

RECORD KEEPING

College Supervisor _______ (Check One) Specific Skills _______ Gen. _______

Student Teacher _______ Supv. Teacher _______

Expenses

Cost of Mailing Tape _______

(Insurance _______

Other Postage _______

Miscellaneous _______

TOTAL EXPENSES _______

Phone Conference Time

Supervising Teacher _______

Student Teacher _______

3-Way Conference _______

TOTAL CONF. TIME _______

Time

Total Tape Time _______

Other Time _______

TOTAL TIME INVOLVEMENT _______
**VIDEO-PHONE SUPERVISION**

<table>
<thead>
<tr>
<th>Student Teacher</th>
<th>Supervising Teacher</th>
<th>Date</th>
<th>Tel.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tape# ______</td>
<td>No. Placement on Tape ______</td>
<td>Date: Received</td>
<td>Reviewed</td>
</tr>
</tbody>
</table>

Supervisor's Suggestions for Improvement

1. 
2. 
3. 

Phone Conference Scheduled for: 

Suggested Date/Time for next conference

**RECORD KEEPING**

| College Supervisor (Check One) Specific Skills | Gen. |
| Student Teacher | Supv. Teacher |

<table>
<thead>
<tr>
<th>Expenses</th>
<th>Phone Conference Time</th>
<th>Supv. Teacher Time</th>
<th>Total Tape</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of Mailing Tape (Insurance)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Postage</td>
<td>3-Way Conference</td>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>TOTAL CONF. TIME</td>
<td>Time</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL EXPENSES | TOTAL TIME INvolvement |
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