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OF HIGH SCHOOL TEACHERS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
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By
Lila Catherine Murphy, B.Ed., M.Ed.

The Ohio State University
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CHAPTER I

INTRODUCTION

Background

In recent years there has been increased pressure on those concerned with educational needs of all people. In addition to this emerging national social conscience, states are faced with issues and problems created by an exploding population, technological developments, mobility, and a host of other societal changes. As a result, most state department of education personnel are unable to cope effectively with the proliferation of programs which they are expected to develop, administer, and supervise. The needed revenue and staff to keep abreast of increasing demands have not been forthcoming.

Educational endeavors in all states have always been subject to the will of the people. Legislatures are basically conservative since they know that it is politically expedient to make efficient use of the tax dollar. In this climate of restraint, it is difficult for state educational agencies to secure the resources needed to provide leadership in these critical times. Realistically, there seems to be little hope of any drastic change in climate and attitude in the immediate future. The challenge then is to make the best use of the resources now available at the state level.
A small state is in a particularly unfortunate position in trying to promote and provide quality educational opportunities for its people. Low salaries, limited staff, and traditionalism can't help but have an impact on the degree of progress which can be realized. It is not uncommon for one supervisor to be responsible for the many and varied activities of a state-wide supervisory program in a specific subject matter area, such as home economics education. In addition, new trends make it mandatory that all vocational supervisors become involved in the broad spectrum of vocational-technical education in order to meet the needs of all people.

Generally, the local teacher wants and needs contact with the state office, especially those employed in one and two teacher departments. Local supervisory personnel do not always possess the expertise required to help with problems unique to home economics. Thus, the state supervisor is perceived as the expert resource person. Local administrators also expect the state supervisor to act as an interpreter of rules and regulations governing the operation of programs using state and federal funds.

With more and more emphasis being given to the leadership role of the state supervisor and in light of the issues involved, it seems logical to assume that a state supervisor should evaluate his role and his activities and determine how best to fulfill the responsibilities inherent in the position. Supervision of local teachers has long been regarded as one of the major responsibilities of the state supervisor. However, little has been done to evaluate, perfect, or change this educational concept which is perhaps the most expensive
and time consuming activity performed by state level personnel.

The long used method of assisting local home economics teachers has been the school contact or face-to-face supervision of individual teachers. This method requires a considerable expenditure of time, energy, and money. Valuable time is used in travel and only a limited number of visits can be made by the state supervisor each year. For example, in the state selected for this study, under existing conditions, the state supervisor contacts each teacher in the school situation once in every three years. Exceptions to this might include requested consultations where urgent problems exist and supervisory visits to new and returning teachers each fall. Perhaps most unfortunate is the fact that when teachers need help it is not available. It is impossible for one supervisor to assist all teachers in the state at the appropriate moment by the face-to-face supervisory method. Since individual contacts are supervisor initiated, the teachers may find the time more inconvenient than beneficial.

Although little research has been reported on past state supervisory efforts, it is known that regulatory activities and teacher-oriented personal concerns have received major attention. The actual contribution of the state supervisor to the improvement of the teaching-learning process appears negligible. The teacher finds it difficult to look at supervision as a helping function and to consider the supervisor as a consultant.

Justification for developing new supervisory techniques can be found throughout the literature. For example, Dirks and her colleagues studied the contributions of the college supervisor to the student
teaching situation (28:35). Their findings indicate that the visit method of supervision accounted for most of the judgment and information giving role incidents, while non-visit methods accounted for most security-giving role incidents. These findings have implications for state supervisors interested in improving supervisory effectiveness.

Statement of the Problem

In these changing times the face-to-face method of supervision used by state supervisors is no longer efficient, effective or an adequate means for assisting local home economics teachers. Continued use of this method as the principal type of contact with teachers will prevent the state supervisor from realistically fulfilling a leadership role, which should perhaps receive first priority at the state level.

If an effective and satisfying method for the supervision of home economics teachers, other than the school contact, could be developed for use by state supervisors, then this method would help to alleviate some of the pressing personnel and financial problems so prevalent in most states. A new approach would be particularly valuable in small states where the problems are most urgent. In addition, if the method is designed to focus attention on the improvement of classroom instruction then the basic purpose of the supervisory act is apt to be realized and the results should be rewarding to everyone involved.
Purpose of the Study

This was a pilot study designed to delineate limits of feasibility of an alternative or supplemental approach to state level supervision of local home economics teachers through the use of audiotape recordings and the telephone, and to ascertain if effective supervision is possible without face-to-face school contact and classroom observation.

The practical aspects of the problem had to receive prime consideration if the end product was ultimately to gain state level recognition and acceptance. Roger's theories of diffusion and adoption were deemed essential in the development of the method: Is the idea compatible, advantageous, divisible, communicable, and not too complex (10)?

Developing a supervisory method to meet this criterion meant it had to be easily implemented, economically feasible and educationally sound. The final product should be adaptable to any school in any part of the state for use with any teacher.

During the academic year 1964-65, Dalrymple and White undertook a limited study to explore the use of "tele-supervision" with student teachers (37). This was the first such attempt to supervise via a telephone conference, supplemented by recording equipment. The method required installation of a conference telephone in each school involved. This was possible in the supervision of student teachers because a limited number of schools was selected as student teaching centers and often these same centers were used from year to year. However, state supervision requires contact with all schools in a
state; thus, it would not be economically feasible to establish a telephone communication system of this nature in all schools. Approaches to supervision of student teachers are being explored at several universities. Dalrymple and Smith have just completed an expanded version of the early "tele-supervision" technique, including use of videotape. The project was carried out in cooperation with The Center for Vocational and Technical Education at The Ohio State University (36).

A limited adaptation of the "tele-conference" approach was designed for the current study. In order to obtain realistic answers to questions the study would pursue, the setting for the investigation consisted of the actual conditions under which the supervisor and teacher are expected to function.

**Research Questions**

As a feasibility effort answers to questions essential to fulfilling the purposes of the study were sought.

1. Are the audiotape recorder and telephone acceptable media for assisting local teachers?

2. How effective is the audiotape-telephone method of supervision in stimulating teacher self-evaluation?

3. How acceptable, efficient and effective is the audiotape-telephone method in fulfilling the purpose of state supervision?

Since the method of supervision eliminated personal contact with the teacher in the school situation and classroom observations, it would be important to discover how teachers reacted to the new approach. Three null hypotheses were tested to determine the significant differences in the responses of experienced and inexperienced teachers as a
result of the study.

1. There will be no significant difference in the post-test scores of experienced and inexperienced teachers relative to satisfactions with the help received from the state consultant.

2. There will be no significant difference in the post-test scores of experienced and inexperienced teachers relative to efficiency, effectiveness and satisfaction with the method of supervision.

3. There will be no significant difference in the post-test scores of experienced and inexperienced teachers relative to their ability to verbally interact with the consultant during the study.

No attempt was made to measure specific improvements in teaching or learning performance from the beginning to the end of the study. If teachers perceived any growth in either process this was a positive addition to the results of the experiment. The major focus of the total effort was to determine the feasibility of audiotape-telephone supervision as an effective, efficient, and satisfying method for stimulating teachers to evaluate themselves, and to assist them in determining what steps could be taken toward improvement. No attempt was made to ascertain what other internal and external factors influenced the teachers' behavior throughout the study. Also, the method used was not experimentally compared with other supervisory techniques.

**Definition of Terms**

The reader may find it helpful to review the following terms which give clarity to the discussion contained herein:

**Audiotape-telephone supervision.**—Audiotape-telephone supervision refers to supervision whereby the supervisor does not have a school contact with each teacher. Tape recordings and a regular
telephone call are the means by which the teacher and supervisor communicate with each other on matters of concern. Prearranged face-to-face contacts are made only on a group basis, or in cases where there is a definite need or purpose for individual contact.

**Discussion class.**—A discussion type class is one in which there is expected verbal interaction between students and teacher. The objective of such a class is to solicit student participation, reaction, opinion and thinking.

**Experienced teacher.**—An experienced teacher is a local home economics teacher with at least five years of teaching experience.

**Inexperienced teacher.**—An inexperienced teacher is a local home economics teacher with less than two years of teaching experience.

**Face-to-face supervision or school contact.**—Face-to-face supervision or a school contact refers to the commonly practiced type of state supervision involving a classroom contact by the state supervisor to each individual school in order to observe and confer with teachers. These terms are used interchangeably with supervisory visit.

**State-level supervision.**—State-level supervision refers to supervisory activities performed by a state department of education staff member as contrasted with local or other levels of supervisory activity.

**Supervisor.**—A supervisor is that person on the staff of a state department of education who is responsible for maintaining, promoting and developing home economics education programs in schools under public supervision and control. The term is used interchangeably with consultant.
Assumptions

The purpose and plan of this study would have little meaning if they were not designed in consideration of certain underlying assumptions:

1. The teacher and her performance in the classroom profoundly affect student learning.

2. Teacher self-evaluation is an effective means through which to promote desirable improvement in the learning-teaching process.

3. Teachers need and desire assistance in becoming increasingly proficient in their responsibilities and will work toward this end upon receiving adequate encouragement and support.

4. Teachers can enhance the learning process by improving discussion techniques.

5. Supervision of local teachers is and will continue to be a valuable function of a state leader's role.

6. Past state-level supervisory efforts have not always been effective in improving the learning-teaching process.

7. The state supervisor (investigator) through past face-to-face school contacts in the state has established a rapport and familiarity with local educational personnel and environment considered important when attempting to improve the learning-teaching process.

Format of Report

A review of the literature in the field of supervision is presented in Chapter II with emphasis on the changing nature of the supervisory function. How a new approach to the supervision of local teachers was developed and tested can be found detailed in Chapter III. A review of the findings of the study is included in Chapter IV. Chapter V, the final chapter, contains a summary of the report, discussion, conclusions, and implications.
CHAPTER II

REVIEW OF LITERATURE

The contributions of other researchers and writers provides valuable information upon which to make decisions about any new undertaking. It was hoped that a review of the literature in the field of supervision might reveal which supervisory approach was most influential in enhancing the learning-teaching process.

An exploration was made of the literature relative to the forces influencing supervisory activities at the state level, the changing image of supervision, efforts to improve the supervisory act, and the functions and role of a supervisor. Since the literature consists primarily of descriptive studies and articles containing untested personal assumptions, the following summary includes only those writings with implications for state supervision. The reader will note that there has been a scarcity of research and lack of experimentation in a field which has been an integral part of public education since its inception. This will explain the broad approach to the following review in order to find direction for the current study.

**The Changing Image of State Supervision**

With the growing concern for excellence in education, state departments of education are being subjected to many pressures and demands for aggressive and competent professional and political
leadership. Recent legislation has been instrumental in bringing into focus departmental inadequacies, such as the slowness to respond to changing needs. As local programs become more complex the demands for service expand at an alarming rate. A new expertise in research, planning, and evaluation becomes essential. Geographic boundaries are dissolved as educational problems become regional and national in scope. Suffice it to say, state education agencies are in a strategic position to shape immediate and long-range goals in education on the state and national level.

For the first time, cooperative efforts with other agencies have been forced; creativity in new programs, demanded; leadership for implementing curriculum change, expected; and the exploration of new media, encouraged. Much of this has resulted since the enactment of the Elementary and Secondary Act of 1965 when Congress finally came to realize the urgent need to upgrade state staffs and improve services.

In 1966, state agency reports to the United States Office of Education revealed that the most adequately developed areas at the state level were: (1) departmental supporting services for local agencies, (2) consultative services to local school districts for improvement of administrative aspects of education, and (3) consultative services for improvement of instruction in Vocational Education. Deficient areas included: (1) collecting, interpreting and disseminating educational information; (2) providing needed consultation to local districts in areas of instruction other than federally supported vocational education; (3) studying, planning and evaluating education programs on a state-wide basis; (4) developing staff competencies;
and (5) administering State and Federal programs (26:12).

From this, one would suspect that state agencies are readily aware of their shortcomings but as yet, most have not found effective ways to utilize the resources available. Supervisory activities and the development of competence too often are overshadowed by administrative "musts." Neville says the reason for this failure is that, "in too many instances...the conceptual framework has not accompanied the development of supervisory programs. That is, a vaguely conceived format of process, roles and responsibilities can be easily dismissed and replaced by little more than good intentions " (32:635).

Professional and cultural experiences indicate that supervision is a necessary function of most educational endeavors; yet, perhaps no concept has received more criticism and less understanding in educational circles. The reasons for this dilemma are many and may be rooted in the "authority figure" concept which characterized early supervisory efforts and which still permeate present modes of operation.

Recent efforts to explore the supervisory role illustrate the complex nature of the function but, a new focus is emerging which is more in line with today's educational philosophy.

Supervision has sometimes been thought of in terms of an economic decision-making model. Those in government and industry have espoused and utilized this model within their own unique contexts. In educational terms, this model suggests that the function of a supervisor is primarily to monitor and to work with teachers toward the effective and efficient achievement of the goals of the school.
Many historical events have served to alter this model throughout the years. Progressive education, group dynamics, psychology and mental health concepts have all had their influence and changed the focus. The most recent and probably most promising shift can be referred to as the "era of feedback." This means that the results of research should form the basis for the function and operation of supervisory programs.

In a culture which expects change, but also prizes the familiar, value dilemmas are inevitable. Since choices are possible, decision making is a necessity. Change must be based on evaluation and advance must consider the contingencies in specific situations (11:30).

Here lies the basis for the new feedback era which proposes that the major functions of supervision are the coordination of effort, and the development of a sense of direction so strong that it can help discriminate as to which changes may be beneficial.

If supervision is a social process which involves interaction between two or more people, how then can teaching, learning, and the curriculum be improved? Students in the field suggest focusing on three problem areas:

1. The interaction of the teacher and supervisor as they attempt to discuss what the teacher is doing and how he can improve.

2. The description of interaction between teacher and class which serves as the basis of the supervisory conference.

3. The social skills involved in any group situation whether it is in a conference, a classroom, or a faculty meeting (15:44).

A set of learning theories of behavior referred to as the organismic, Gestalt, and field theories apply to the new concept of supervision. The common features of these three theories assume that
cognitive processes of insight, intelligence, and organization are fundamental characteristics of human response. Most important in the "feedback" concept of supervision is the field theory view which regards learning as essentially a social process. To learn an organism must interact with others. For this reason, group work and interaction, such as discussion, are important elements. Individual differences are crucial. Motivation is central in this theory because learning occurs largely in response to basic motivating needs and goals and is enhanced by interest, motivation, and practice (not mere repetition). Learning resulting from intrinsic motivation is seen as most likely to be retained and used again; thus are in effect, transferable (12:80-82).

Consideration of these facts makes a strong case for a "humanizing" approach to the supervisory act. The state leader can achieve significant results and make an impact on local programs only with the cooperative efforts of the classroom teacher.

**Approaches to the Supervisory Process**

Most of the research in supervision is being completed by doctoral candidates and a high percentage of these writings are of a descriptive nature. The emphasis is on what supervisors do, how they do it, and how selected groups feel about what is being done. Only one study was located which experimented with a new technique for improving supervisory activities. Devine developed workshop sessions for eight principals in a school district to improve their abilities in supervising fourteen sixth-grade teachers and their classes: The purpose of the inservice training was to establish a closer
relationship between the administrators and the teaching-learning situation in order to nourish creative teaching effort (39). This study made use of direct personal contact and classroom observations which are often feasible at the local level.

Approaches and practices of supervisors have a profound effect on the learning-teaching situation. Negley conducted a national study of social studies supervisors in grades seven through twelve in an attempt to determine the relationship between effective supervision and extent of authoritarianism practiced. Through his analysis, it was concluded that both mid-authoritarian and non-authoritarian supervisors are more effective than are authoritarian supervisors. Interesting is the fact that the difference in effectiveness is greatest in terms of the confidence held by teachers in the supervisor (52).

An investigation of the leader behavior of directors of instruction, using the Leader Behavior Description Questionnaire, was conducted by Luckee. His sample included thirty-two directors from Alabama, Florida, Georgia, Louisiana, and Mississippi, their superintendents and five randomly selected staff members with whom they worked. The conclusions of the study indicate that directors appear to lead best when showing a great deal of consideration to fellow staff members. Skills in human relations or in maintaining group morale appeared to be of vital concern (49).

Duffy undertook an in-depth observational study of the observed and perceived roles of four directors of instruction. Each director was observed for three weeks and all behaviors were recorded in terms of specific tasks performed and interactions and processes involved in
performance of these tasks. Although the sample was limited the study did produce insights about a leader's role which might not otherwise be recorded. For example, his subjects spent approximately 80 percent of their time interacting with people; face-to-face, 65 percent; over the telephone, 25 percent; and written communications, 10 percent. Informing and receiving information accounted for more than 65 percent of the processes employed by a director (40).

A look at the frequency of supervisor-teacher interaction and how first year teachers performed was reported by Elicker in 1965. One hundred seventy-three recent college graduates in secondary education were subjected to a twelve-week period of extensive supervision. The purpose was to determine whether teacher anxieties and attitudes were affected by the supervision and if performance was influenced. Findings of significance for state supervision are (1) the lower the anxiety level of the teacher the higher is the performance, and (2) there is a tendency for a supervisor to engage in a very limited amount of supervisory interaction with the teachers (42).

In a study of techniques employed by elementary school supervisors, Sanberg points out that beginning teachers reject those techniques of supervision which are inspectorial in nature. He asked nine hundred and forty-nine beginning teachers and sixty-four supervisors to rate on a seven point scale the degree of effectiveness of sixty-seven supervisory techniques. He found that teachers wanted to understand the purposes of the supervisor's contact with them. Effective techniques suggested were the supervisory conference, observation in the classroom (if results were used to assist teacher), demonstrations
of new materials and methods, and orientation programs. Supervisors felt that inspectorial supervision was effective (54). This difference in opinion is an important finding and may account for a beginning teacher's unwillingness to ask for assistance from the supervisor.

There are indications of a trend in many high schools toward the use of supervisory practice more in keeping with modern concepts. Gregg, in 1962, explored practices in selected Pennsylvania schools to determine supervisory trends. His sample consisted of fifty-two six-year high schools with enrollments between 500 and 1,000 students. Principals and teachers were asked to indicate the extent to which seventy recommendations of supervisory experts were being practiced. Principals and teachers' opinions differed significantly on 45 of the 70 practices. However, his conclusions substantiated his belief that considerable progress is being made in translating supervisory theory into practice (45).

One of the fundamental problems is that teachers do not always view supervision as focusing on instruction or expect supervisors to be prepared to help them improve teaching. This is even more important when one considers that research studies support the fact that teachers want supervision that will help them attack and solve instructional problems. Gogan, in 1964, surveyed the existing status of supervisory services and activities in selected secondary schools. A questionnaire was submitted to 407 secondary teachers and 26 supervisors. A majority of teachers stated they received most of their ideas for the improvement of instruction from books, periodicals, and other teachers.
This has implications for supervision since teachers also indicated they wanted supervision but of "the right kind" (44).

Rice sought to identify the function of state supervision in Vocational Education in Ohio. This is one of the few studies designed to explore any phase of state level supervision and included vocational teachers, principals and state field supervisors. The purpose of the study was to identify the role of state supervisors in relation to change as perceived by supervisors (26) and their reference groups (408 vocational teachers and 150 principals). He analyzed differences in the perceptions of the groups regarding the ideal and actual supervisory role. The ideal supervisory role was perceived to be more change oriented than the actual role. All subjects involved in the study perceived their supervisor to be primarily dynamic in his orientation to change in the actual supervisory role (53).

The importance of improving supervisory techniques cannot be overstated and some of the research cited can serve as reinforcement for eliminating many out-dated practices. And as Phipps says (in an article in Educational Leadership) "self-motivation is the key that unlocks the unused potential teachers possess and supervisors can spark this self-motivating attitude" (34:630).

An evaluation of the effectiveness of a supervisory program needs to be considered before decisions can be made about improvement. How this task might be accomplished did not receive much attention in the literature except in the writings of such individuals as Harris (7), Wiles (13), Burton and Brueckner (5), and Bartky (4). A doctoral dissertation by Dull presents a comprehensive set of criteria for
evaluating supervisory programs in school systems. Self-evaluation is
the process recommended for use with his instrument which consists of
473 criteria. The criteria encompass the work of all supervisors of
instruction, including principals, general and special supervisors,
curriculum directors, and superintendents. The criteria were eval­
uated by 120 national leaders in supervision and field tested in 18
school systems (41). The criteria are consistent with an operational
definition of the human relations approach to supervision and the
instrument is particularly valuable in determining the views of
teachers regarding supervision. With minor changes these criteria
could be used in evaluating state supervisory programs.

Interaction in groups is another area of concern for supervisors
who expect to be change agents. Lewin, Lippitt and White, as long ago
as 1930, studied social atmosphere and concluded that democratic
leadership, in which the leader helped the group organize itself and
make its own decisions, proved in the long run to produce the best
results in terms of things accomplished, cooperative relationships,
and personal growth (31).

Hemphill observed that the interrelationships among the level
of pleasantness of group membership, the tendency of the group to
function as a unit, the leadership adequacy and the leader's behavior,
indicate that a leader's most important function on the dynamics of
group behavior may well be that of maintaining group membership (8:99-
100). Sensitivity training or human relations training pioneered by
the National Training Laboratories has as a major goal, "to build
bridges between the world of human sciences and that of practical
affairs" (51:1). Supervisory competence might be improved by participation in such activities or by acquisition of some of the skills and understandings stressed in this type of training.

Those in the Association for Supervision and Curriculum Development assert that contemporary findings in human motivation offer many insights which should become an integral part of the concept of leadership and supervision.

1. Men seek a cause for which to live—an individual needs something beyond himself to care about and work for.

2. Desire for success often leads to conformity—individuals become secure by conforming, but at what point does conformity become surrender of freedom?

3. Being alone or different is not easy—experimentation is not easy for most people.

4. Feelings are important—honest recognition of emotions and their relations to the intellectual process is needed. Leaders have a long way to go in encouraging positive use of their colleagues' feelings (14:19-21).

The values of supervisors are no doubt real, but proclaiming one's values to a teacher is not the kind of feedback that will best facilitate change. What is needed is some means of helping the teacher see what he is actually doing. A number of such procedures have been and are still being developed. Perhaps the most well-known is the work of Flander's and his Interaction Analysis System. This system is based on the assumption that the verbal behavior of a teacher is a realistic sample of his total behavior. Interaction is classified into ten categories. An observer sits in the classroom and at three-second intervals records the interaction observed. Over a forty-minute period, with about twenty recordings per minute, an interaction matrix can be built which describes the behavior of the teacher over
this period of time. This system provides the teacher with the necessary feedback to understand certain facets of his behavior (6).

Perkins developed an observational system which records not only nonverbal behavior but teacher role and learning activity at the same time. Numerous studies have been undertaken to test the validity of interaction analysis techniques, both in inservice and preservice situations. Research by Furst (43), Amidon (1), and others are often associated with efforts to observe the learning-teaching process systematically.

Research in student teaching also has implications for supervision. Amidon has made many studies of student teachers and it is encouraging to note that his findings confirm that student teachers trained in Interaction Analysis become more indirect, accept more student ideas, and criticize less than those not trained (2:77-92). The use of micro-teaching has been pursued under the direction of Dwight Allen, formerly of Stanford University and now at the University of Massachusetts. Micro-teaching is a scaled down teaching encounter which can be used to provide introductory teaching experiences, inservice training opportunities, or as a research vehicle to explore training effects under controlled conditions (35). The significant elements in this approach are brief lessons, small groups, intense supervision, videotape recordings, and feedback. Supervisors could develop meaningful inservice opportunities based on this technique. For example, a project to determine the implications of micro-teaching in training Trade and Industrial Education and Technical teachers is now being completed at the Center for Vocational and Technical
Education, Ohio State University. A pilot study conducted at the University of Illinois concerning the improvement of instruction through the use of portable videotape recorders and micro-teaching techniques was completed in the summer of 1968. The study explored the use of videotape recordings by twenty-five student teachers for self-appraisal and by cooperating teachers and college supervisors in reviewing student presentations. Critiquing by telephone was an integral part of the experiment. The findings of the project were favorable, encouraging further refinement and considerations of the procedures developed (23).

### Role of the Supervisor

Of all the aspects of supervision, the role of the supervisor has received the most attention in published documents. Only a few studies are cited because the procedures used are similar and the scope too narrow to suggest generalizing beyond the population studied. Many articles simply include analyses and descriptions of existing conditions. Allen presented a review of dissertation titles in a summary which covered the period 1957 through 1962 and revealed that eighty-four studies were related to various aspects of supervision. One-third dealt with role, status, and duties of different persons performing the supervisory function. Nineteen related to techniques, activities, services, and practices of instructional supervisors, and the third major group centered around studies of supervisory relationships, perceptions, and attitudes (27). The investigator's perusal of recent studies found these same aspects under study but with more
attention to human elements and interaction.

There is a desperate need within the field of supervision to identify and clarify the supervisor's role and responsibilities regardless of the level at which the individual is supervising. Evidently what has been demonstrated through research to establish role and function is not being put into practice.

Moll sought to reveal the extent of agreement and conflict in the role expectations of the director of curriculum held by 106 superintendents, 94 secondary principals, and 64 directors themselves, in unified school districts of California. Using a forty item Q-sort containing duties of a curriculum director obtained from interviews with administrators and from current literature, she found differences within each group of respondents as to which duties are most important. The main differences emphasized that administrators do not delegate both authority and responsibility for improvement of the instructional program to the curriculum director (50). Burchell made a similar, but limited study, of role performance of chief curriculum-supervisory officials in three public school systems. Throughout all three systems the role functions of "providing consultative help and instructional/curriculum services" and "arranging and/or conducting inservice education activities" were most broadly associated with the chief curriculum-supervisory official. This included responses from superintendents, the supervisory officials themselves, principals, and a selected sample of elementary, junior high, and senior high school teachers. Extensive ambiguity among teachers about the nature of the supervisory official's role performance was found to exist (36).
The same classifications of educators were included in a statistical study of the concepts of the role of the instructional supervisor. Lott employed the use of a Q-sort device and included 397 participants in the experiment. One hundred items were given the subjects to sort so as to describe their concepts of the ideal and the actual role of the supervisor. Highly significant differences existed among the groups. Statistically significant differences were found to exist in comparisons of each group with every other group in their concepts of both the ideal and actual role. Conflicting conceptions of role were essentially conflicts over expertness and managerial ability versus permissiveness and the group dynamics concepts of supervision (48).

The studies presented in this review are concerned with the role of the supervisor at the local level. One comprehensive state survey was found in the literature. The Louisiana School Supervisors' Association in cooperation with the College of Education, Louisiana State University examined their school practices. The results showed that 63 percent of their time was spent visiting classrooms, doing clerical work, conferring with principals and teachers, working with lay groups, and traveling. The remaining 37 percent was divided among seventeen other activities. This indicates that the state supervisor's role is generally vague, diverse and lacking in direction. He performs many tasks, has no fixed locus of operation, attends to a variety of problems, works with many people at many levels and yet is almost immune to systematic evaluation (21).
In this review of recent efforts in the field of education supervision, it was found that most of the completed research is varied and refers to many aspects and levels of supervision. It is difficult to identify specific trends or generalize with any degree of accuracy about the findings. Many studies involved substantial populations using state, regional and local personnel. Only two in-depth studies were undertaken. The most common procedure was to consider "across the board" involvement of all persons concerned with the supervisory process: superintendents, principals, teachers, and directors or supervisors. Seldom was the student included in the study.

Longitudinal studies are non-existent. Research is being accomplished primarily by doctoral students which, by its very nature, is less time consuming. Articles and research information in journals or other publications repeatedly refer to doctoral dissertations or "authority" conclusions. There were no records of original research projects which one might expect to be undertaken by educational and professional research agencies.

The most common instrument used was the questionnaire and there has been little originality in developing instruments and new techniques. Many studies were not designed for statistical treatment since the basic objective was to obtain suggestions and opinions rather than make comparisons and inferences.

From what is available it can be suggested that democratic supervisory approaches which include a feedback element are most effective in changing behavior. In addition, three general observations can be formulated from the literature.
1. There is a difference in the activities and techniques considered important to supervisors and teachers.

2. There is a need to improve interpersonal relationships between the teacher and supervisor.

3. There is a need to focus supervision on the improvement of the learning-teaching process.

The field is wide-open to the researcher. One must delve deep to find any type of study which is more than descriptive. Research studies designed to test various types of supervisory methods at the state level are non-existent. It would seem evident that the time is now to investigate this long neglected area in order to provide empirical evidence upon which to initiate change and improvement in state supervision. In response to the challenge, the following chapter describes a method used to determine the feasibility of using a new approach to the supervision of local teachers.
CHAPTER III

METHODOLOGY

The study was designed to determine the feasibility of the state supervisor of home economics education supervising local home economics teachers via an audiotape-telephone method. The experiment was developed and carried out in a normal setting under natural conditions.

In the state where the study was undertaken, the state supervisor is in the position of attempting to provide leadership and assistance to a large segment of teachers through a consultative role. Local teachers have the option of selecting in-service activities. This philosophy had to be considered when selecting teachers for participation in the study, as procedures were developed, and in identifying the focus of instrumentation.

For the first time, a member of the Department of Education planned to penetrate the "sanctity of the classroom" and produce tangible evidence for evaluation. It is important to note that local personnel at all levels of authority do not always look with favor upon State Department of Education officials and activities. The delicacy of the situation demanded a feasibility study in order to "set the stage" for an innovative process and to gather data from teachers upon which to design subsequent experimental efforts.
Blanke feels there is a great need to invent and design better solutions to problems in the teaching-learning situation and presents his conception of how this can be accomplished (Figure 1). His system places development in the center of the diagram because it is crucial to any state's attempt to improve its educational capacity (24:294). His ideas give credence to the need for developing studies such as this one undertaken in supervision.

Figure 1: An Educational Improvement System
The plan as utilized made use of two types of communication media not presently employed to any great extent in supervision but readily available in most public schools: (1) the telephone, and (2) the tape recorder. Almost without exception teachers had access to tape recording equipment. They recorded class sessions and later listened to the tapes in order to make an evaluation of the results. Additional feedback was provided when the tapes were mailed to the supervisor for her evaluation. A followup verbal contact was made in a telephone conference. On December 29, 1968, the State's Centrex System of telephone communication became operational. This provided a means for direct, uninterrupted, toll free access to any location within the state.

The state supervisor through the audiotape-telephone method of supervision assumed a "stimulator" role and provided encouragement for self-evaluation. Schroeder, in one of the few studies made in the area of state supervision, found that teachers, administrators, and supervisors perceived the over-all role of the state supervisor of vocational agriculture at the level of directiveness indicated by the term "stimulator." The term suggests that the supervisor would not provide final direction but would offer ideas and suggestions without awaiting the invitation of personnel at the local school level (55).

Although in the audiotape-telephone method of supervision an attempt is made to limit the long used state level initiated supervisory contact in individual schools, it does not eliminate all direct personal contact between the teacher and the supervisor. On the contrary, it would be expected that eventually time would be
available for the supervisor to plan and direct in-service and other
types of group experiences, to help individual teachers with urgent
problems, and to perform a true leadership role. In fact, the group
meeting was an important element in this study as is indicated by the
procedures employed.

Experienced and inexperienced teachers were involved in the
research. A period of six to seven weeks was considered a sufficient
length of time to judge the feasibility of the method.

Research Design

Selection of sample

Selected to participate in this study were twenty-seven home
economics teachers in New Hampshire public schools teaching in grades
seven through twelve during the academic year 1968-69. Nine teachers
were classified as inexperienced (I) meaning each had less than two
years of teaching experience. Eighteen had more than five years of
teaching experience and were identified as experienced teachers (E).
Two experienced teachers who participated in the study were eliminated
before the final analysis of data was undertaken. Due to a death in
the family one teacher was unable to complete the study under the same
conditions as other participants. The other teacher was employed in
an experimental school where class sessions were not organized so
that teacher-student interaction could be used as a focus for improve­
ment. The administration of the school expressed a desire to have the
school involved in the study; therefore, the teacher explored the use
of audiotape equipment in enhancing individualized learning experiences
but her responses were not applicable to the objectives of this study. She completed all steps in the experiment and the results of her efforts have real implications for further study of the learning process.

Any approach to assisting local teachers depends to a large extent on the background and experiences of the teachers involved. For example, a concerted effort is usually made by the state supervisor at the beginning of each school year (September-October) to have face-to-face school contact with new teachers. The beginner needs help in becoming oriented to teaching and in the organization of curriculum and facilities. Generally, she needs considerable support and encouragement. Experienced teachers also have unique concerns which demand special attention. Because the needs and desires of the two groups differ, the investigator decided to divide her sample according to years of teaching experience.

The "Directory of Elementary and Secondary Home Economics Teachers in New Hampshire" for 1968-69 prepared by the Division of Vocational-Technical Education, State Department of Education, Concord, New Hampshire, was used as the basis for selecting participants for the study. The document contained the names of 160 teachers. Because of familiarity with the personnel involved, the investigator was able to eliminate the names of teachers who would not be acceptable for the study: (1) teachers who were newly employed at the half year or semester mark (January), (2) part-time teachers with a limited class load, and (3) tentative substitute teachers.
Official files in the Department of Education provided ready access to teacher records. Demographic and professional data on the remaining individuals were obtained. Teachers with more than two years and less than five years of teaching experience were removed from the list. Eighty-seven experienced teachers and twenty inexperienced teachers were left from which to draw the final sample.

An original goal of twenty-four teachers, twelve in each group, was considered feasible for the state supervisor to supervise realistically by the audiotape-telephone method during the time allowed for the experiment.

The names of the eighty-seven experienced teachers were typed on slips of paper and placed in a box. As each name was randomly drawn it was listed numerically until all eighty-seven names were drawn. Since twelve teachers were needed for the study, it was decided that thirty-six would be contacted. A table of random numbers was used in selecting the thirty-six. Eighteen teachers consented to participate and because of their interest and willingness, the investigator decided to include them all. Thus eighteen teachers from the original randomly selected group actually participated in this group (two were eliminated from the sample before the data were analyzed).

There were only twenty inexperienced teachers employed in the state, all were contacted and nine agreed to participate. Thus, nine teachers from a total accessible population participated in the group.

Due to the nature of the experiment, which required a specific amount of classroom interaction, most of the teachers who refused to participate did so because they were involved in laboratory units of
Since the school year was drawing to a close, it was impossible for them to make many changes. Only one teacher did not respond to the request for participation. One teacher returned the form with a negative response and without an explanation. In addition, one teacher did not receive her letter until two weeks after the study was underway. It had been delivered to the wrong school.

Pre-experimental design

The "one-shot case study" or "after-only" study without controls is considered by many researchers to be less than scientifically significant. Campbell and Stanley express concern with the degree of time and energy expended on the tedious collection of detail when a total absence of control exists (18:6). They diagram such studies as follows in terms of sequence of experimental treatment and observation:

\[ X \quad 0 \]

Barnes feels differently and states that although the design is not used in experimental research, it may be a necessary step in charting territory for later experimentation.

When we gather adequate data among the group being studied, we can relate various characteristics and gain information about factors which may have been previously obscure. The more we study such a single cell, the more confident we become that certain forces may be influential in shaping the results we uncover. Our logical analysis may jibe with good common sense and suggest a flood of hypotheses to be tested later. (3:65)

Studies of a descriptive nature using a single cell design to analyze an existing situation, tend to be large in scope or consist
of a combination of one-shot case studies, related or unrelated. The freedom to range widely is available in these studies but it is impossible to identify specific problem solutions, make predictions based on theory, or to attempt probability inference. The real and necessary contributions made through pre-research studies should not be diluted by reading into them more than can be demonstrated (3:67).

The single cell design is not fully applicable to this in-depth study involving a small group in a new approach to supervision. A pre-experimental "one-shot" case study deals solely with a single group which is studied once, subsequent to some agent or treatment presumed to cause change (18:6). True experimental research calls for some sort of control and experimental grouping. This study did not have an experimental and control group nor was the final sample considered as a single group. An attempt was made to discover effectiveness of a treatment and the difference in the results on two distinct groups of subjects. A post-test was administered and partial random sampling selection, but not assignment to treatment, was employed.

Since this was a feasibility study no attempt was made to determine the "Hawthorne Effect." Emphasis was placed on the acceptability, efficiency, and effectiveness of the method for use in state supervision. The supervisor had developed a rapport and familiarity with local conditions and most local personnel during the preceding five year period. However, it would be appropriate to consider the "Hawthorne Effect" when designing further experimental research of this nature if the method proved to be an acceptable medium for assisting
local teachers.

The choice of a pre-experimental design was considered necessary in the study due to the natural conditions under which the investigation was to be performed.

**Procedure**

The study consisted of four major phases: preparation and organization of plans, execution of the experiment, development of instruments, and analysis of data. The first two are explored in this section.

Teachers became involved during the second phase which was divided into three steps: A, the preliminary group conference; B, audiotape-telephone supervisory sessions; and C, the post-evaluative group conference.

**Preparation and organization of plans**

Initial approval was obtained from the appropriate authorities in the state department of education to undertake the research. Time was arranged for the supervisor to accomplish the study as a regular on-the-job activity. The central state office provided space, equipment and technical assistance to carry out the project.

The idea was first introduced at a division of vocational education staff meeting in the fall of 1968. Suggestions and support were solicited which would facilitate completion of the experiment.

On March 7, 1968, home economics teachers throughout the state attended an in-service education conference. At this time the
investigator presented a brief outline of the proposed study in order to acquaint teachers with the idea. They were also informed that written information would be sent at a later date.

A letter explaining the study and encouraging participation if selected, was sent on March 21, 1968 to all home economics teachers in the state. (Appendix A) Copies were sent to principals and superintendents of schools since their support was necessary to the success of the study. After the sample had been drawn a letter was sent to each selected teacher requesting involvement. A return response sheet which requested pertinent information was enclosed (Appendix A). Those who responded in the affirmative were asked to attend a preliminary group conference at which time explanatory information and specific directions were dispensed.

Home economics teachers in the state who were not selected for the study were sent a letter also encouraging involvement on their own (Appendix A).

Arrangements for equipment.--Contact was made with the New England Telephone Company for the installation of recording and telephone equipment for the supervisor. This included the installation of (1) a temporary telephone extension, (2) a Spokesman Loudspeaker Set, (3) shut off switch to prevent interference from the telephone on the secretary's and supervisor's desk, and (4) a recorder connector. The latter is required by law when telephone conversations are to be recorded. An effort was made to obtain permission from state and federal authorities to eliminate the "beep" tone inherent in the equipment but all efforts failed. A tape recorder was attached
to the communications equipment and the set-up was tested several times to determine efficiency.

It was determined that each selected teacher had access to a telephone and an audiotape recorder necessary for her part in the experiment. Audiotapes were provided for their use.

**Development of materials for teachers' packets.**--The focus of the study was on the improvement of classroom verbal interaction with the supervisor stimulating the teacher to evaluate her own performance and effectiveness. It was necessary to develop a line of thought and communication which would yield profitable interaction between the teachers and the state supervisor as they attempted to evaluate audiotaped class sessions.

A packet of material was prepared for each teacher which would help establish a point of reference. The packets were discussed and distributed at a preliminary group conference and contained the following items:

1. "The Oral Communication of Teachers"--

A three-page discussion of teaching strategies commonly used by teachers when communicating orally with students was enclosed. Four broad classifications of communication were outlined: (1) the application of sanctions, (2) the development of procedures, (3) the handling of information, and (4) the maintenance of the class as a social system. As part of self-evaluation teachers would attempt to classify their communications in the classroom into these categories. A realistic picture of which teaching strategy
they used most often would emerge (9).

2. Audio Tape Evaluation Form--

In order to record types of communication being used by teachers systematically, an evaluation form was prepared (Appendix C). When the teacher or supervisor listened to audio tapes of class sessions, she could check each time the teacher applied sanctions to the students (rewarded or punished); delivered information, asked questions or encouraged student thinking; developed procedures alone or with the students; and/or maintained the class by taking care of routine matters, making small talk, or providing for transition.

3. Teachers' Critique of Audiotaped Sessions--

The previously discussed material referred to the oral communication of teachers only. Consideration of other factors was essential to the overall evaluation of each taped lesson. A one-page form was produced which included twelve items to be rated as poor, fair, satisfactory, good or superior (Appendix C). Such items as the physical setting, organization of lesson, discipline, and student interest were listed. The form was to be used by the teacher for reference when discussing the taped sessions with the supervisor on the telephone. These would not be collected or seen by the investigator. A second page consisting of four general evaluative statements was attached.
4. Leadership techniques--

A series of handout sheets encompassing a variety of leadership activities was placed in the packet. This included copies of material developed for duplication purposes by another state department of education (25). Included were ideas on how to arrange and handle groups, how to ask satisfactory questions, functions in a leadership role, and how to organize and use various discussion techniques. This material was designed to help teachers stimulate meaningful classroom interaction.

5. Teaching Techniques Emphasized in Microteaching Research in Home Economics Education--

During the past years considerable research on micro-teaching has been completed. Five major teaching techniques have been identified through this research: (1) establishing set, (2) questioning, (3) reinforcement, (4) appropriate frames of reference, and (5) achieving closure. A description of these techniques as used by Bell was given to the teachers (16). The purpose of this information was to simulate teachers to look at their performance in the classroom and analyze organizational procedures and teaching behavior. It was a way to review teaching methods briefly.

6. Calendar of events--

The specific dates and activities with which teachers would need to be familiar were placed on a calendar and
included in the folder. It contained dates of group meetings, what weeks to tape class sessions and evaluate results, when to mail tapes to the state office, and when to expect telephone calls from the supervisor. Telephone calls were made during a specific week but at a time convenient to the teacher. The calendar could be placed in a conspicuous spot for easy reference (Appendix C).

7. Stamped addressed envelopes—

Each teacher received three large envelopes stamped with the supervisor's address for returning tapes to the central office. Postage was affixed.

8. Time record—

Enclosed was a form upon which to record the actual time, in minutes, that the teacher spent on various aspects of the study (Appendix C).

9. List of participants and addresses—(Appendix B)

10. Agenda for preliminary group conference—(Appendix D)

11. Card for recording teachers' daily teaching schedule—

In order to organize a schedule for contacting teachers via the telephone, it was necessary to ask when they were free to converse, either at home or during school hours. Each teacher had an opportunity to designate the time and place most convenient for her to receive a telephone call.
Material for the supervisor.—The supervisor used the same evaluation form to appraise taped class sessions as the teachers (Appendix C). In order to stimulate thinking during the telephone conversations with teachers, a list of questions was prepared. Space was provided on the sheet for teacher reactions, requests, and other pertinent information, such as topics discussed which had no relationship to classroom interaction. The amount of time spent on each telephone conversation was recorded.

An extensive file was developed for each teacher which included such items as demographic information, correspondence, and schedules. These data were vital to the investigator as a supervisor but are outside the realm of this study and are not included in the report.

Sample audio tapes of classroom interaction.—It was decided that teachers might be more comfortable in evaluating tapes of their own classes if they had an opportunity to hear a sample tape and practice evaluating it in the prescribed manner. The investigator asked three experienced, qualified teachers to assist in producing sample tapes. None of these teachers were involved in the study.

One teacher recorded what she considered to be positive classroom interaction and the other two teachers recorded examples of negative classroom interaction and behavior. (The latter teachers were from the same school and made only one tape.) The two tapes were for use at the preliminary group conference.
Execution of the experiment

Phase II consisted of three steps: (1) the preliminary group conference, (2) audiotape-telephone supervisory sessions, and (3) the post-evaluative group conference. The teachers were involved in all three steps which began on April 10, 1969 and were completed on June 10, 1969.

Step A: The preliminary group conference.—Two identical preliminary group conferences were held, the first on April 10, 1969 with eleven teachers in attendance and the second on April 21, 1969 with sixteen teachers. This made it possible to keep the groups small and informal. Each session met from 1:30 P.M. to 5:30 P.M.

It was obvious initially that teachers were apprehensive and somewhat threatened by this new idea, so considerable time was spent detailing the intent of the study. Emphasis was placed on the fact that the method as a supervisory technique was under investigation rather than an evaluation of teachers. This point was strengthened by presenting an explanation on the kinds of instruments which would be administered at the conclusion of the study.

The mechanics of the study were discussed and information exchanged concerning time schedules, telephone numbers, addresses, mailing procedures, use of equipment and other details.

A brief review of teaching methods and techniques as related to enhancing discussions and improving classroom interaction were presented by the investigator. A format was adapted from a leadership training publication for use with the groups (22). Overhead transparencies were made to supplement the presentation. Before adjourning
the meeting, teachers had an opportunity to hear sample tapes of classroom interaction and to practice evaluating them.

Step B: Audiotape-telephone supervisory sessions.—Upon returning to their individual schools, teachers selected a class with which to work throughout the study. The class met often enough during each week and students were involved in class discussions for a sufficient length of time to allow the teacher to make an audio tape of a twenty to thirty-minute segment of interaction. There was no limit on the number of times the teacher recorded the selected class or, for that matter, any other classes. The main objective was to stimulate self-evaluation. Only one tape was returned to the state supervisor. Due to extenuating circumstances, two teachers recorded class sessions of two different classes before the study was completed.

The teacher listened to the recorded class session and evaluated the results on the form previously described. The tape was then mailed to the state supervisor. One week was allotted for this part of the process.

Upon receiving the tape the supervisor listened to it and evaluated the class session using the same form. She then placed a telephone call to the teacher and initiated a discussion of the tape and other pertinent issues. Calls were supervisor-initiated because of the toll free Centrex Telephone System available for use in state agencies. However, teachers were encouraged to call the supervisor collect whenever it was necessary or desired.

The supervisor organized a schedule so that it was possible to evaluate tapes from one group and to place the telephone calls to
teachers in the second group over a period of a week. While one
group of teachers was recording class sessions the other group
received telephone calls. This staggered schedule meant that one week
the supervisor received eleven tapes and the next week sixteen arrived
from the second group.

Each telephone conference with teachers was recorded on
audiotape. The tapes were later used to evaluate what had been dis-
cussed, to check on requests made by teachers, and to determine the
effectiveness of the telephone as a tool for supervision. The super-
visor was free to pay close attention to the telephone conference
because she had a record of the communication and did not need to
make many on-the-spot notations.

The preceding process was repeated three times by the teachers.
Each teacher made three taped class sessions and evaluated them,
mailed the tapes to the state supervisor who also evaluated the
results, and participated in three telephone conversations. An
attempt was made to change the emphasis during each telephone contact.
The first one was aimed at stimulating the teacher to look at herself
as a teacher and her performance in the classroom. During the second
telephone session the supervisor tried to assist the teacher in iden-
tifying broad areas of concern and specific strengths. The final one
focused on the student and the learning process.

Information and/or materials designed to assist the teacher
with her unique concerns were sent when requested or deemed appropriate.
Many other requests not related to the teaching-learning situation,
but considered part of the supervisor's overall responsibilities,
were fulfilled.

**Step C: Post-evaluative group conferences.**—At the completion of the audiotape-telephone supervisory sessions, two identical post-evaluative group conferences were held on June 3, 1968 and June 10, 1968. Teachers returned time sheets and completed reimbursement forms for travel. Five instruments developed by the investigator to evaluate the study were explained and administered to the teachers.

1. **Teacher Satisfaction Scale: Help Received from State Consultant.**

2. **Teacher Satisfaction Scale: Method of State Supervision.**

3. **Teachers' Perception Scale: Improvement and/or Growth in the Learning-Teaching Process.**

4. **Elements of Interaction between Teachers and State Consultant.**

5. **General Evaluation Report on Audiotape-Telephone State Supervision.**

Responses on the first four instruments were recorded on Optical Scanning Corporation Standard Answer Sheet-A. These were supplied by the University of New Hampshire Bureau of Educational Research and Testing Services where the data were analyzed.

An open discussion was held at the final meeting and recorded on audio tape. This subjective evaluation provided the detail and insight on the study which could not be obtained from the written evaluation. The investigator and teachers identified specific areas of concerns which came to light during the study. These were explored and solutions suggested.

The investigator prepared transparencies on learning problems, and classroom evaluation techniques which were discussed with
the participants. Handouts were also distributed.

Early in the study teachers requested that the supervisor prepare a tape which contained outstanding examples of classroom interaction and segments of telephone conferences which were significant. With the permission of the teachers involved, this was accomplished and the tape was played for the teachers.

A follow-up thank you letter was sent to all participating teachers and their administrative superiors. It was promised that each would receive a summary report of the study.

Measurement

A review of literature revealed that experimentation in the area of state supervision was almost non-existent. A few instruments were available to measure teacher satisfaction but had little reference to the elements under investigation in this study. The investigator was forced to develop appropriate measuring devices for use in collecting data to evaluate the study.

Helwig had used a teacher satisfaction scale, developed by Wood, for a study of formal communication between teachers and their principal (20). Wood was located at the University of Akron in Ohio, and contacted for information about his scale. He generously supplied the investigator with a copy which had been refined since earlier experiments and subjected to factorial analysis. He also gave the investigator permission to use his instruments. (Appendix A) The items on the Wood scale were not applicable to this study but the design was appropriate and was adapted for use. The Teacher
Satisfaction Scale: Help Received from the State Consultant, includes some of the same terminology as Wood (56).

Four additional instruments were constructed to gather evaluative data on the feasibility of using an audiotape-telephone approach to the supervision of local home economics teachers: (1) Teacher Satisfaction Scale: Method of State Supervision, (2) Teachers' Perception Scale: Improvement and/or Growth in the Learning-Teaching Process, (3) Elements of Interaction between Teacher and State Consultant, and (4) General Evaluation Report on Audiotape-Telephone State Supervision. A five-point scale was used for responses on all instruments except the General Evaluation Report. This meant that most responses could be placed on one answer sheet for easy analysis and transfer to IBM cards.

Teacher Satisfaction Scale: Help Received from State Consultant

A one-page ten-item scale was prepared to determine how teachers felt about the help received from the state consultant during the study (Appendix E). Help referred to the broad category of assistance given, such as encouragement, support, suggestions, ideas, and information. Reactions were rated on a five point scale simply marked A, B, C, D and E. No descriptive or evaluative statements were assigned to each point on the scale. This technique was to prevent respondents from deliberating over words and encouraged the recording of first impressions.
All ten items referred to one statement which was placed at
the beginning of the instrument. "The help I received from the
State Consultant was ____________________." Each item consisted of
a descriptive word placed at the left of the scale (represented by A)
with an antonym at the right of the scale (represented by E). Degrees
of feeling could be marked at any of the five points. Included were
such words as meaningless-meaningful, unnecessary-necessary.

It was important to discover how satisfied teachers were with
the help they received because one of the major functions of effective
state supervision is to provide adequate assistance to teachers in the
field. Even if the method proved to be satisfying and efficient,
justifiably it could not be adopted on a larger scale unless it en­
hanced the supervisory function.

Teacher Satisfaction Scale: Method of
State Supervision

Three factors were considered important to the reactions
teachers might have to a new method of supervision: Was it efficient,
effective and satisfying? From personal experience as a teacher and
five years of contact with teachers as a supervisor, the investigator
was cognizant of the fact that time is a significant concern of public
school teachers. Any new educational technique must accommodate this
factor if it is to be accepted at the local level. Studies and
writings on educational change espouse this philosophy (24). A new
idea must be useful to the practitioner. It must be effective in
helping the teacher achieve a desired goal. With the many responsibi­
lities placed on the average classroom teacher today, she has little
interest in irrelevant involvements. Above all, the technique must be satisfying. A feeling of security and success comes with a method that is comfortable, and a willingness to adopt change has roots in satisfaction (17).

Based on these premises, a scale was constructed to determine teacher satisfaction with the audiotape-telephone method of supervision (Appendix E). A twenty-item instrument placed emphasis on (a) the Mechanics of the Method, and (b) the Method as an Evaluative Technique. The latter was considered an essential element to measure because the entire study was aimed at stimulating teacher self-evaluation.

The teachers had an opportunity to rate how efficient, effective, and satisfying each of the twenty items were to them. Efficient was described as the convenience, practicality, and manageability of the method in regard to time and energy required. Effective meant the method was influential, useful, and a contributing factor in achieving results desired in the learning-teaching process. The method was considered satisfying if the teacher was a comfortable and contented participant and found the technique pleasing, adequate and unobjectionable.

Each item had three responses: (1) inefficient - efficient, (2) ineffective - effective, and (3) not satisfying - satisfying. Each response was rated on the same five point A, B, C, D and E scale.
Teachers' Perception Scale; Improvement and/or Growth in the Learning-Teaching Process

To determine the feasibility only of this new approach to state supervision teachers were not to be measured as to growth and improvement during the study. However, satisfactions with the method and help received might be affected by the teacher's own perceptions of change or progress expected. Guss reviewed psychological research and theory which indicated that an individual's behavior is determined largely by his own perceptions of himself and his role and that expectations of others create, in part, this self image which directs behavior (30).

During the audiotape-telephone phase of the study teachers evaluated the tapes of their class sessions on a form developed by the investigator entitled, Teachers' Critique of Audio-taped Class Sessions (Appendix E). The Teacher's Perception Scale was an adoption of this Critique and explored elements affecting or related to the teaching and learning processes (Appendix E). Eighteen items were rated on a five-point evaluative scale; (1) no growth or improvement, (2) a little growth and improvement, (3) fair growth and improvement, (4) good growth and improvement, and (5) outstanding growth and improvement. Items included such elements as organization and planning of lesson, classroom climate, classroom behavior, student motivation and interest, and achievement of lesson objectives. Responses were to consider the amount of change teachers felt had taken place during the study only. Realistically, change was not expected on most items, but hopefully some change on a limited number would occur.
Elements of Interaction between Teacher and State Consultant

Another important aspect of the investigation involved the ability of the teacher and state consultant to communicate effectively with each other and to feel comfortable in the interaction process. Face-to-face school contacts with teachers provide an opportunity for several types of communication and if one approach fails another can be strengthened. This is not possible when using an audiotape-telephone technique to supervise teachers because interaction is essentially verbal. Thus, it was of paramount importance to assess the type of interaction which took place.

The teacher and the supervisor performed dual roles, both talked and listened. Talking and listening have meaning, create feelings, and evoke reactions which help determine the success or failure of a relationship. How to measure this relationship posed several problems.

Instruments designed to measure relationships have been constructed by researchers but often these devices seek to evaluate total relationships which include a variety of contacts. Also they focus attention on the personality characteristics of the subjects involved (28). Neither approach seemed relevant to this study for the following reasons: (1) the focus of the audiotape-telephone supervision study was on the feasibility of a new method rather than the personalities of individuals involved, (2) the study was not of sufficient length to establish in-depth relationships between the supervisor and teachers, and (3) a total relationship cannot be realized
through verbal contacts only. In subsequent years many of the teachers would be working closely with the investigator so it was important not to become involved in personal issues.

Supervision is a human process which demands a broad understanding of human relations. This philosophy prompted the investigator to explore literature in the area of human relations. A mimeographed report on human relations training laboratories sponsored by the National Training Laboratories of the National Education Association, contained pertinent material on the analysis of social interaction process (51). This material was used as the basis for the interaction instrument used in the study. The National Education Association was contacted for permission to use the material. No response was received.

The final instrument consisted of three parts (Appendix E). Part I explored teachers' reactions to how they felt about their ability to listen, ask for, offer, accept, and reject five major elements of verbal interaction during the telephone conversations they had with the state consultant. The five elements of verbal interaction (or things which were talked about) were: (1) information, (2) clarification, (3) opinions, (4) suggestions, and (5) directions or regulations. A five-point scale was used to measure responses: A - Almost never, B - Sometimes, C - Usually, D - Most of the time, and E - Always. The degree of freedom with which the teacher felt she had to make her decisions regardless of the direction suggested by the supervisor, and the degree of condemnation or threat she felt if she did not follow directions suggested, were inherent in the
twenty-five items. The following diagram will help explain the design of the instrument:

* Types of Verbal Communication

Figure 2: Oral Interaction Diagram.

Part II gave the teachers an opportunity to clarify some of their previous answers. If they did not feel that they had exchanged enough information, clarification, opinions, suggestions, or specific directions with the consultant, they could indicate it in this section. The same scale was used.
Part III was designed to assist the state consultant in determining where support and encouragement were most needed when involving teachers in a new project. How apprehensive teachers felt at various stages of the study might logically affect their satisfactions with the technique. Teachers rated their feeling of apprehension on a five-point scale, the same as the one on the satisfaction scale. Fourteen major stages of the study, beginning with the explanatory letter sent to all teachers through the post-evaluative group conference, were listed. The teacher marked "A" if she felt extremely apprehensive, "E" if she had no apprehension, or any degree between these two extremes.

General Evaluation Report on Audiotape-Telephone State Supervision

There are many aspects of an experiment of this nature which cannot be measured on an objective instrument. Nine statements or questions were prepared to give teachers an opportunity to elaborate on their feelings and express ideas and opinions (Appendix E). It was deemed imperative that teachers have the freedom to respond openly in the event that the method being tested ever became part of their normal routine.

Two questions were answered by teachers who had experienced face-to-face supervision in the past. The purpose of the two questions was to solicit some reactions from persons involved in two different supervisory techniques. These reactions provided the state consultant with candid opinions of local teachers to use when dealing with local administrative personnel.
The five instruments were tested for clarity and organization by several educators. Some revisions were made in the format and terminology before final copies were produced. The instruments were administered to the teachers at the beginning of the post-evaluative group conference before any discussion was allowed. This was to prevent contamination of individual responses. The personal administration of the instruments by the investigator made it possible to discuss each one in detail and to direct the teachers' thinking and interpretation.

**Analysis of Data**

As a feasibility study designed to explore a new approach to state supervision, free expression data were collected to answer the following questions:

1. Are the audiotape recorder and telephone acceptable media for assisting local teachers?

2. How effective is the audiotape-telephone method of supervision in stimulating teacher self-evaluation?

3. How acceptable, efficient and effective is the audiotape-telephone method in fulfilling the purpose of state supervision?

No attempt was made to analyze responses to these questions statistically except to support teachers' reactions and evaluations with percentages obtained from responses on four of the instruments administered.

Non-parametric statistical tests were applied in the analysis of the data gathered on instruments. An ordinal scale formal was developed for all instruments. A chi square test was used to
determine the significance of differences in responses of experienced and inexperienced teachers on five aspects of the audiotape-telephone supervisory experiment in which they participated.

1. How satisfying was the help provided by the state supervisor?

2. How efficient was the method?

3. How effective was the method in stimulating evaluation of the learning-teaching environment?

4. How satisfying was the method?

5. To what extent was the teacher able to interact verbally with the state supervisor?

Mean post-test scores were computed to determine overall satisfaction with the help received, perceptions of growth and/or improvement, ability to interact, and degree of apprehension felt throughout the study.

A correlation coefficient was applied to determine if a relationship existed between the post-test scores of experienced and inexperienced teachers on their (a) ability to interact with the state supervisor, and (b) amount of interaction.

An item analysis, with resulting percentages, was completed on the 132 items contained in the four instruments.

Chapter IV, which follows, is a final report of the findings of the study. A discussion of relevant information accompanies the findings to aid the reader in understanding how each of the preceding questions was answered and evaluated.
CHAPTER IV

FINDINGS

In order to answer the questions investigated in the study, a clearly defined point of reference as to the meanings of effective supervision was identified. The most appropriate description was discovered in Frymier's philosophy.

Supervisors cannot do anything and everything. They dare not dissipate their energies in non-professional, that is, noneffective ways. They have to find a way to draw a circle around what they do so they can give both focus and power to their own energy output. They must learn to use themselves in such a way that what they do makes a difference. (19:101)

Is it feasible to use an audiotape-telephone method when supervising local home economics teachers? Will teachers find that the method really "makes a difference" in the learning-teaching process? What factors need to be considered if the method is to be effective? These broad questions summarize the purpose of the study; thus, they were organized so answers could be obtained by a systematic procedure.

1. Are the audiotape recorder and telephone acceptable media for assisting local teachers?

2. How effective is the audiotape-telephone method of supervision in stimulating teacher self-evaluation?

3. How acceptable, efficient and effective is the audiotape-telephone method in fulfilling the purpose of state supervision?
4. Will there be significant differences in the reactions of experienced and inexperienced teachers to the audiotape-telephone method of supervision?

Findings were recorded in four ways: teachers' free responses on a General Evaluation Report (Appendix F), audiotapes of oral discussions at a post-evaluative group conference, an evaluation of recorded telephone conference data, and evaluation by the state consultant (investigator).

Acceptance of Media to Teachers

In this experiment, the consultant attempted to supervise local teachers through the use of the audiotape recorder and the telephone. The only direct face-to-face contact with teachers was at the preliminary group conference and the post-evaluative group conference. The major issue to be resolved was to determine if supervision can be effective without personal contact and classroom observation. If supervision is to "make a difference" in the learning-teaching process it must be viewed as an evaluative technique which provides the foundation upon which to make decisions about improvement.

Although no specific measurement was made of the rapport between the teachers and the consultant, there was little hesitancy on the part of teachers to respond freely. The personal element was somewhat removed by emphasizing an evaluation of the method. The investigator stressed the need for honest representation of all feelings in order to build an adequate model for future consideration.
Are the audiotape recorder and telephone acceptable media for assisting local teachers?

The following data consist of teachers' reactions gathered from three sources: (1) the General Evaluation Report which contained free response questions (Appendix E), (2) responses made during telephone conferences, and (3) the post-evaluative group discussions.

Acceptability of audiotape recorder to students.—One of the common defenses of individuals faced with a new idea or a change in habit, is to make assumptions about how others will, should, or might respond to the idea suggested. Projection or rationalization seems more professional than saying "No." In educational circles the student often becomes the "scapegoat" for the teachers' feelings of insecurity.

At the first preliminary group conference the entire study was presented in detail to the participants. The majority thought their students would not respond normally with a tape recorder in the classroom; therefore, the taped class sessions would be unrealistic. In fact, the total experiment seemed somewhat idealistic to many of the teachers even though they expressed a willingness to try.

In order to reach some conclusions about this concern, a question relative to the effect of the recorder on student reactions was included: "Do you think the presence of the tape recorder in the classroom affected student reaction and response? Explain." A definite positive change was reported by three teachers. They said students were enthusiastic and inclined to participate more often than they had in the past because they liked to hear the "playbacks." An emphatic "No effect" was expressed by eight teachers who said the
classroom situation was normal. Four respondents stated that at times students were bothered but each gave a reason which she thought could easily be overcome. Eight said, "At first, but they soon forgot it was there." One teacher reported that students spoke too softly and another thought they were more reserved. Two teachers, out of the twenty-five involved, indicated that the tape recorder had a definite negative effect on students. One of the two had so little response from her class (high ability level eighth grade group) that after a week of "struggle" she selected a second group for the rest of the study. Two others said the effect was negative but only because "it was all so new to the students."

During telephone conferences with the teachers, the consultant asked how the students reacted to the recorder in the classroom. The majority indicated during the first telephone conferences that students were bothered, reserved, and generally apprehensive. As the experiment progressed, most teachers found that this initial reaction disappeared.

At the completion of the study, only one teacher indicated that the recorder still bothered the students.

Acceptability of the audiotape recorder to teachers.—The majority of the teachers had little difficulty adjusting to the presence of the tape recorder in the classroom. Twenty-one reported a positive reaction, stating that they enjoyed it, had no real problems, or were relaxed after the "newness" wore off. The remaining four teachers expressed varying degrees of nervousness. One had extreme mechanical difficulties, another felt she tried so hard that she lost
the students, and one was not able to forget the recorder was in the room. Additional comments included reference to background noise, the desire to purchase a recorder for personal use, and how the idea had stimulated the interest of other teachers in the school. As the experiment progressed, teachers gained confidence and were not threatened by the recorder in the classroom.

Difficulties encountered by teachers.—Technical difficulties with recording equipment were experienced by seven teachers who had never used the recorder to any degree in the past. Only four said they were familiar with the use of the equipment. Experienced teachers had the greatest amount of mechanical trouble and were the most apprehensive about using the machine.

These difficulties seemed particularly frustrating as the consultant conferred on the telephone with the participants. Learning to use the recorder, where to place it for good "pick-up," breaking tapes, volume control, voice control, and other related concerns were expressed. The need to experiment with equipment and learn to operate it efficiently was considered essential. The teachers suggested that a demonstration-training session be held before teachers are expected to use a new device. Evidently, these difficulties were surmounted and became less prominent as the experiment progressed. Only one teacher stated at the completion of the study that she had another person operate the recorder for her throughout the entire experiment. However, she added that she was determined to learn to use it and would "practice" during the summer vacation period.
Repeated interruptions during recording sessions disturbed the teachers. *Often* the public address system in the school could be heard or someone entered the room. The consultant was able to discuss these matters with the teachers and help them realize that this was a normal part of school life.

Most teachers were able to acquire exclusive use of a tape recorder during the study. The few who had to share with other faculty members found it difficult to do all they desired and had to schedule their time quite systematically.

The time of year was of concern to seven teachers. Those taping grade twelve classes said the seniors were ready to "quit" by the time the final tape was made.

In two instances, school building construction interfered with the quality of the sound recordings. Three teachers experienced personal and family health problems which affected their ability to participate as desired. One felt that insufficient time was allowed to make real progress and this was frustrating. Class scheduling problems were reported by one teacher and another said the students' attitude was poor.

Teachers were cognizant of the fact that many of the difficulties encountered are inherent in any situation, but those which could be improved should be considered if the method becomes an integral part of the state supervisor's activities.

**Acceptability of the telephone as a supervisory technique.** Universal use and familiarity with the telephone meant few problems were encountered with this supervisory tool. The written and verbal
evaluations of teachers contained little reference to this aspect of the study, except as related to the content of interaction. Contacts by telephone were scheduled and expected at a time most convenient to the teacher. If the teacher was busy when the call was made she was free to indicate this fact and a second call was placed at a more convenient time.

There was no difficulty involved in finding an accessible private telephone; however, many calls were made "at home" in the late afternoon or evening. Freedom to discuss school and personal concerns in a quiet, relaxed atmosphere without interruptions appealed to the participants. The majority said they were more objective, honest and introspective during telephone conferences than during a face-to-face contact.

Teachers were free to contact the consultant as desired. Ten teacher-initiated telephone calls were received by the consultant during the study in addition to the three scheduled calls to each teacher. A total of eighty-five telephone conferences were held in seven weeks. The time length for the call decreased with each successive contact from an average of 34.2 minutes for the first conference to an average of 25.9 minutes for the final contact.

Teachers stated that the telephone conferences made them feel secure. They liked to experiment and have an opportunity to discuss the results immediately. The expectation of a telephone call prompted them to be organized and stimulated ideas or questions for discussion. Many said they asked for more help than in the past because the need was "fresh" in their minds. One teacher said, "Just
knowing that someone cared, helped me considerably."

Acceptability of the method to teachers.--It was important to
discover if teachers using these new tools of supervision, the audio-
tape recorder and telephone, perceived any merit in the technique.
All twenty-five teachers said the method had merit. Several gave
specific suggestions for improving the audiotape-telephone approach
or for using it in conjunction with face-to-face school contacts.

I do feel it has merit if used along with some personal
contact.

Personal contact is necessary for first year teachers.

Should be used every other year so during the off year
the consultant could visit in person to see our facilities
and students.

Enjoyable and satisfying. Teachers' performance should be
judged daily in order for her to improve.

Any evaluation that helps is good. Taping should be done
by every teacher now and then to check on herself.

If used more often, method will become part of classroom
set-up.

If recordings are spaced throughout the year and are
taken on different classes.

Some reasons which illustrate the merits of the study to the
teacher personally were given.

Definite merit! Gained more in this short period of
time than in years of traditional visits.

Provides an opportunity to compare quality of subject
matter, teacher enthusiasm, and student interest. A
way to develop good lessons to share with others.

One is able to get questions answered and get another's
opinion.

Gave me a chance to correct mistakes which I was not
aware of before--could see where improvement was needed.
Absolutely! A great help in developing a more objective outlook. Very effective as a self-evaluating technique.

Method keeps the teacher thinking and active, and when used along with visits will pave the way for the consultant's visit.

Definitely. As classroom teachers we are able to hear ourselves and this fact alone enables self-evaluation which I believe is most effective.

Makes teacher more aware of what actually goes on in the classroom.

Frequent telephone sessions could help establish better rapport between teacher and consultant.

Telephone calls were especially helpful. Just talking together and the consultant's encouraging words mean so much.

The merits of the study, as seen from the supervisory point of view, were reported by three teachers.

Good, if we know enough to use it. Supervision can't be split into 200 pieces in 180 school days.

Helps acquaint the supervisor with areas where she can be of great assistance to the teacher.

Definitely, if the consultant is good. This could make or break the effectiveness of what is being done.

Although all teachers said the technique had merit, there were three who made reserved comments.

To a certain extent. I still feel classroom visitations tell more of the story. Tape recordings could be very useful in solving immediate problems.

Valuable on a small scale—nothing can replace classroom visit or video tape.

Better than nothing! Personal contact provides greater encouragement for job being done.
No attempt was made to evaluate experimentally the differences between face-to-face supervision and audiotape-telephone supervision. A limited assessment was made of the opinions and reactions of sixteen teachers who had been exposed to both methods. The inexperienced teachers (9) had never been supervised by the face-to-face method.

No one selected the face-to-face school contact by itself as the preferred approach to state supervision. Eight of the sixteen teachers stated they preferred the audiotape-telephone method. One teacher commented, "I really received more help and was at ease with the method. I found it stimulating, particularly in self-evaluation and finding new ways of solving old problems." Some felt the audiotape method produced a more natural situation. It was indicated that when the consultant visits, the teacher is inclined to give the class a test or study period on the pretense that she wants to spend the time conferring with the consultant. One teacher said she had "no preference," and seven felt a combination would be best.

The latter group of answers focused on the realism of the situation; that is, face-to-face contacts are not possible each year and the audiotape-telephone method is one way to "keep in touch" and to focus on specific problems. In this way help can be obtained when needed. As one teacher stated, "Tapes do more to improve teaching techniques and provide more incentive toward the improvement of the teacher. I'd still like to have supervisory personnel visit school and get to know our young people."

The same experienced group of teachers were asked to discuss what they considered to be the value of a face-to-face supervisory
visit by the state consultant. Three teachers did not respond to the question. Twenty-five reactions were recorded (Table 1). The face-to-face contact was considered of most value for evaluating physical facilities. Teachers say the consultant needs to know the environment in which the teacher must function in order to evaluate her performance effectively. It was felt that awareness of adequacy of layout, equipment, and supplies has profound consequences for effective supervision. Second in importance, was the human element. The consultant "needs to see and know the individual, not just a voice."

The social aspects of a personal visit were important for three teachers.

### TABLE 1

<table>
<thead>
<tr>
<th>Value</th>
<th>f</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation of facilities and total environment</td>
<td>10</td>
</tr>
<tr>
<td>Knowledge of individual, not just a voice</td>
<td>5</td>
</tr>
<tr>
<td>Socialization</td>
<td>3</td>
</tr>
<tr>
<td>Evaluation of class size, type of students, behavior, and reactions</td>
<td>1</td>
</tr>
<tr>
<td>Can visit all teachers in the department at the same time</td>
<td>1</td>
</tr>
<tr>
<td>Observation of general atmosphere of school</td>
<td>1</td>
</tr>
<tr>
<td>Reinforce budget requests</td>
<td>1</td>
</tr>
<tr>
<td>Advice on setting up new programs</td>
<td>1</td>
</tr>
<tr>
<td>Chance for administration and other teachers to meet and hear about home economics—helps our image</td>
<td>1</td>
</tr>
<tr>
<td>Evaluation of teacher, especially personal appearance</td>
<td>1</td>
</tr>
</tbody>
</table>
Acceptability of the media for uses other than audiotape-telephone supervision.—The transfer of new learnings from one situation to another is most desirable because it confirms that there has been a change in behavior. An attempt was made to evaluate the practicality of using the audiotape recorder and the telephone in the supervisory process by identifying additional uses for the equipment. Twenty-seven specific suggestions were presented by participants and a few teachers reported they had already used the tapes successfully in various ways.

Several ideas were reported for enhancing the learning process with emphasis on individual problems.

Student self-evaluation (expression, contributions, voice)
Lesson review for absentees
Tape classes in other schools and let students hear them
Help handicapped students—for example, speech problems
Record directions for students with poor reading ability
Attention was given to suggestions which could be utilized by the administration.

A record for administrative evaluation
For use with parents if a conflict arises (subject matter, student behavior)

Problem classes—administrator or consultant review and suggest improvements

Use with board of education to strengthen needs in special areas

Record material to be played when teacher is busy, out of classroom, or absent (have available at all times)

Help for substitute teacher
How tapes can be used to help the teachers become more effective was another area explored by respondents.

- Share lessons with teachers in other schools
- Share unique teaching ideas
- Encourage teachers to realize problems are often universal, not isolated (sharing)
- Comparative studies with other teachers in the field
- Aid teachers with little or no education background
- Stimulate classes which have lost "zest"
- Identify interferences in classroom which go undetected

Ideas were suggested for recording specific kinds of presentations.

- Record interviews and socio-dramas for use at another time or speakers who can't come to school to talk to class
- Record visiting speakers for use at another time
- Record commentaries for filmstrips--students can then use individually
- Tape outside programs and lectures
- Record student reports
- Tape specific lessons and avoid having to repeat

Approximately 50 percent of the teachers plan to purchase a tape recorder for their own personal use. This decision is significant because the teachers feel the technique "made a difference" and the suggestion did not come from the supervisor.

**Effect of method on relationship with state consultant.**—The negative connotation commonly associated with educational supervision was brought into focus here. Approximately fifty percent of the teachers interpreted the question as "Do you feel the study had a
negative effect on your relationship with the consultant?" Conse­quenty, ten teachers made no specific comments and eleven recorded positive remarks. Of the eleven, three teachers indicated that a good relationship developed and they would feel free to contact the consultant for additional help when needed. Two stated that their relationship had always been favorable. All other responses were related to the comfortable feelings developed between the teacher and supervisor which created an atmosphere conducive to free expression and discussion.

Effectiveness of Method in Stimulating Self-Evaluation

The major need of teachers and the focus of supervision are to understand and use what we know about learning, teaching and human relationships. We know that self-evaluation is one of the most effective techniques which can be used to stimulate change but people often need assistance and encouragement so they see the concept as a form of growth rather than a destructive process. Wiles' philosophy for improving the learning-teaching process is particularly relevant.

Unless a teacher feels right about himself, about his job, about his fellow staff members, and about his supervisor, he is not ready to consider his teaching processes. Assurance of his own worth and the importance of his job, a sense of belonging to the group, and a trust in the official leadership are the necessary foundations to any serious attempt to improve instruction (13:286).

If instruction is to be improved, it seems logical to assume that teachers must improve. If self-evaluation is a process designed to facilitate improvement then supervisors are obligated to assist
teachers in this task. Then it follows that any method of supervision must be effective in stimulating teacher self-evaluation.

**How effective is the audiotape-telephone method of supervision in stimulating teacher self-evaluation?**

To determine the effectiveness of the audiotape-telephone technique in stimulating teacher self-evaluation, several avenues were explored. Teachers were asked what they considered to be the most and least valuable aspects of the study, to discuss and present personal reactions at a group meeting, to explore their strengths and weaknesses during telephone conferences, and to rate the method as an evaluative technique.

**Value of the study to teachers.**—An analysis of all responses to a question about the value of the study indicates that teachers related personally even though no attempt was made to direct their thinking toward personal aspects. The method provided them with help in areas which substantially influence the learning-teaching situation (Table 2). Eighteen of the twenty-five teachers stated that self-evaluation was most valuable. In addition, eight other comments related directly to a phase of self-evaluation. Six recorded comments dealt with the impact of the study on student growth and/or meeting student needs. Improving the teacher-consultant interaction process was considered most valuable to seven and five gained most from using the audiotape equipment. Although only three teachers remarked that the study stimulated better teaching, this was inherent in all answers given (multiple responses were acceptable).
### TABLE 2

**MOST VALUABLE ASPECTS OF STUDY**

(N=25)

<table>
<thead>
<tr>
<th>Item</th>
<th>f</th>
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<tbody>
<tr>
<td>1. Self-evaluation</td>
<td>18</td>
</tr>
<tr>
<td>2. Listening to own voice</td>
<td>4</td>
</tr>
<tr>
<td>3. Effect on student attitude, involvement, reactions, and self-evaluation</td>
<td>4</td>
</tr>
<tr>
<td>4. Ability to interact with consultant without apprehension</td>
<td>3</td>
</tr>
<tr>
<td>5. Stimulation of better teaching</td>
<td>3</td>
</tr>
<tr>
<td>6. Awareness of student needs and how they are being met</td>
<td>2</td>
</tr>
<tr>
<td>7. Learning to listen</td>
<td>2</td>
</tr>
<tr>
<td>8. Development of a new way to communicate with consultant</td>
<td>2</td>
</tr>
<tr>
<td>9. Value of audiotape recorder as a teaching device</td>
<td>2</td>
</tr>
<tr>
<td>10. Learning to use equipment</td>
<td>2</td>
</tr>
<tr>
<td>11. Discovery of many uses for audio tapes</td>
<td>1</td>
</tr>
<tr>
<td>12. Group meetings</td>
<td>1</td>
</tr>
<tr>
<td>13. Telephone sessions--less rushed than visit</td>
<td>1</td>
</tr>
<tr>
<td>14. Awareness of personal &quot;laziness&quot;</td>
<td>1</td>
</tr>
<tr>
<td>15. Amount and quality (poor) of teacher talk</td>
<td>1</td>
</tr>
</tbody>
</table>

The self-evaluative value of the method was explored further on the Teacher Satisfaction Scale: Method of State Supervision. It contained a section which gave teachers an opportunity to rate how effective, efficient, and satisfying they felt the method was as a self-evaluative technique (Appendix F). Two questions specifically related to this concern. Each question called for three responses (total of six). Responses were marked on a five-point scale (A - B - C - D - E) with an "A" rank indicating a low or negative score, and
an "E" being a high or positive score.

The first question was concerned with the effectiveness of the method as a self-evaluative technique. Of the experienced teachers (16), eighty-eight percent considered the effectiveness of the method at the highest level (Table 3). Of the inexperienced group (9), eighty-nine percent rated the method at the highest level. There was a similar response in relation to the degree of satisfaction felt and the efficiency of the method. All participants rated this as a favorable method for stimulating self-evaluation.

The value of the method in stimulating self-improvement was explored in a second question. Seventy-five percent of the experienced teachers responded at the highest level, while 78 percent of the inexperienced teachers ranked it at this high level. All inexperienced teachers ranked the method at high levels of effectiveness, efficiency and satisfaction in stimulating self-improvement. Some experienced teachers felt the method was of less than highest value levels for them.

Initially, teachers did not want anyone to hear the taped class sessions, except the consultant. As they became more confident fear was replaced with understanding and in many instances they shared the results with students. This stimulated the students to become involved, especially because they liked hearing their own voices. One respondent remarked that the most valuable part of the study was "evaluating the class tapes by (1) letting the class hear them and comment, (2) personal evaluation of the tapes, and (3) telephone evaluations with the consultant."
TABLE 3
EFFECT OF METHOD IN STIMULATING TEACHER
SELF-EVALUATION AND IMPROVEMENT
(N=25)

<table>
<thead>
<tr>
<th>Item and Group</th>
<th>Percentage Stimulated</th>
<th>Self-improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low-------High</td>
<td>Low-------High</td>
</tr>
<tr>
<td>Experienced, N=16</td>
<td>A B C D E</td>
<td>A B C D E</td>
</tr>
<tr>
<td>Inexperienced, N=9</td>
<td>0 0 0 12 88</td>
<td>6 0 6 0 88</td>
</tr>
</tbody>
</table>

A. Efficient Method

<table>
<thead>
<tr>
<th></th>
<th>Self-evaluation</th>
<th>Self-improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experienced</td>
<td>0 0 0 11 89</td>
<td>0 0 0 22 78</td>
</tr>
<tr>
<td>Inexperienced</td>
<td>0 0 0 11 89</td>
<td>0 0 0 22 78</td>
</tr>
</tbody>
</table>

B. Effective method

<table>
<thead>
<tr>
<th></th>
<th>Self-evaluation</th>
<th>Self-improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experienced</td>
<td>0 0 0 12 88</td>
<td>6 0 6 13 75</td>
</tr>
<tr>
<td>Inexperienced</td>
<td>0 0 0 11 89</td>
<td>0 0 0 22 78</td>
</tr>
</tbody>
</table>

C. Satisfying method

<table>
<thead>
<tr>
<th></th>
<th>Self-evaluation</th>
<th>Self-improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experienced</td>
<td>0 0 0 19 81</td>
<td>6 0 6 0 88</td>
</tr>
<tr>
<td>Inexperienced</td>
<td>0 0 0 11 89</td>
<td>0 0 0 11 89</td>
</tr>
</tbody>
</table>

Percent of total response 0 0 0 13 87 4 0 4 9 83

"Hearing ourselves as others hear us" was startling to teachers. Several commented, "As I listened to myself I was reminded of classes in which I once sat and was bored to death!" A very honest evaluation was expressed by one teacher" "It pointed out to me that I was getting lazy in my daily preparation--a fact I knew but one which I had tended to push to one side at my convenience."

Self-evaluation received considerable attention from the teachers who responded in the space provided for "Comments" on the General Evaluation Report (Appendix E). The significance of these comments can best be realized by presenting a few as stated. (No
negative comments were made).

This project was very valuable to me. I learned a great deal about my teaching.

At first I was tempted to refuse to participate, but now I'm glad I was asked and I really believe that it will help my teaching.

I thought it was very worthwhile especially for my own personal evaluation.

I need more help or training with the use of audio tapes because I would like to do this as a check on my classes--for our own evaluation.

I enjoyed this project very much. It really opened my eyes to some of my peculiarities and what goes on in the classroom. It gave me a new insight into the needs of my students. If nothing else comes forth from this study, my worth as a teacher will definitely be improved.

...It has helped me become more aware of how I handle a class and some things I need to change and improve. I particularly like using the tape as I can listen to the class later as an evaluator--I can become an outsider--making it easier to be critical of things which need improvement.

I wish every teacher had had this opportunity--we all need to stop and evaluate what we are doing to and for our students.

Even if this is not required next year, I think I will use it occasionally for the benefit of the students and myself.

Hearing yourself conduct a class is an odd sensation, but having an interested person to hear it with you really helps you find your weak and strong points. The study simply brought out ideas about my teaching which I had just not thought of....

It made me see my weaknesses and areas I was strong in. By talking with the consultant, I was made aware of other areas I had faults in and never noticed.

Never felt being realistic meant being under attack [teacher's reference is to the questions on one of the evaluation instruments] at the same time I had emotions of disappointment to know that personal goals have not been reached.
Least valuable aspects of the study.---Perhaps the most significant fact to consider in analyzing responses to this question is the number who didn't respond (8) or said they couldn't think of any appropriate comment (9). Two teachers made irrelevant comments, and nine offered specific aspects which they considered to be least valuable or made suggestions for improvement. Only one administrative item was identified as a least valuable aspect (time sheet). The emphasis on the ineffectiveness of the method in helping students and enhancing the learning process is an important consideration if teachers are to change the focus of teaching ultimately.

Not effective for student self-evaluation

Difficult to use as a student learning device

The emphasis on class discussions. Another time the study might seek to study student problems

Would be more effective if we made daily tapes rather than a week apart.

Not enough time or opportunity to adequately follow-up and evaluate classes with students

Limiting to one class

Length of time of the study

Keeping a record of time spent

Discussions at post-evaluative group conferences.---Many of the comments made by teachers on their written evaluation of the audiotape-telephone method of supervision were reemphasized and explored further at the post-evaluative group conference. These same comments are not repeated in this summary.
Teachers were surprised at the influence the physical environment had on students. An awareness was created for the effect of noise, inadequate seating arrangements, ventilation problems, and crowded conditions. Experienced teachers said they overlooked too much and forgot that students were not accustomed to some of these distracting items. Inexperienced teachers stated they became so concerned with themselves and teaching that they often were oblivious to the physical situation.

All teachers had a favorable reaction toward the group conferences held at the beginning and completion of the experiment. They found value in the teacher-to-teacher contact and the supervisor-teacher interaction. The materials presented at each session were considered useful. An exploration of ideas and sharing of common concerns were considered as most valuable discussion areas. They thought home economists were strongly united throughout the state and expressed that a sense of security comes from this cohesiveness. A desire for continued assistance from the state consultant was stressed. This confirmation brought forth a flood of suggestions as to how audiotapes could be used by the consultant to assist teachers such as recording current ideas in subject matter areas, new and/or specific approaches to teaching, selected reference information, evaluation procedures, excerpts from exception1 classes, new curriculum ideas, and many others. Teachers could send for the tape desired and play it at their leisure. It was emphasized that teachers are more apt to listen to a tape than read printed material.
The need for personal contact was made repeatedly. "Someone who cares and will listen" was reported as one of the most valuable contributions a consultant can make to the local teacher.

A new perspective on the teacher's influence on student learning emerged. The common expression so often used by the home economist, "dumping ground," the lack of time to evaluate difficult situations, the need for open-mindedness, the required involvement in unrelated school activities, and the apathy which accompanies fatigue, were expressed as areas which seriously deter learning. Lack of administrative interest and support was mentioned often. As one teacher phrased her feelings, "My principal could have cared less that I was involved in this study." Two teachers explained how the support of their administrators provided them with incentive to participate.

The value of using tape recordings for student self-evaluation and improvement was discussed. Teachers need assistance in using tapes for this purpose and need time and guidance in understanding this approach. It was obvious they had focused their attention almost exclusively on the teaching process throughout the experiment.

It was the general opinion that they were more discouraged and upset with the results produced on the second taped class session than the first and third. An analysis of the reasons helped them realize they had expected too much improvement in too many areas and they were disappointed with the slow rate of change. Also, the sudden confrontation with personal weaknesses through self-appraisal was disturbing. After discussing the second tape with the consultant realistic expectations were perceived for the third taping and evaluative session.
One principal and a home economics teacher educator attended the post-evaluative group conference. The teacher educator saw possibilities for the audiotape-telephone method in supervising student teachers. If undergraduate students were exposed to the technique and equipment at this level, many of the problems encountered in this experiment would be resolved. The principal in attendance was President of the State Association of Secondary School Principals. He was anxious to learn how the method might be applied to general administrative supervision. His presence was a source of encouragement to teachers who participated in the study.

As might be expected, the participants felt a real need to have recording equipment at their disposal. It was stressed during the discussion session involving all teachers, that if a new idea doesn't save time and isn't convenient, it will never be accepted and used.

Effectiveness of telephone conferences in stimulating self-evaluation.—An attempt was made to evaluate and explore cooperatively four major concerns during the telephone conferences with teachers: (1) major strengths, (2) major weaknesses, (3) improvement needed, and (4) overall reactions to taped class sessions. The following summary is a compilation of ideas exchanged during the interaction process. Discussions were too interwoven to determine frequency of interaction for each item listed during the eighty-five telephone contacts, but general ideas were identified.
Major strengths identified

1. Positive sanctions (rewards) given students
2. Solicitation of student opinion
3. Application of student experiences to subjects under discussion
4. Variety of teaching methods and techniques (demonstration, lecture, handouts, samples, laboratory involvement, films, case studies, role playing, and overhead projections).
5. Freedom to question
6. Student reports as a discussion technique
7. Good student behavior
8. Planning and organization of lessons
9. Consideration of student needs
10. Student evaluation of tapes
11. Sharing of opinions and ideas
12. Good enunciation and pronunciation in teacher presentations

Major weaknesses identified

1. Teacher answering own questions
2. Introduction to lesson
3. Establishing objectives
4. Emphasis on detail and "trivia"
5. Teacher domination
6. Exclusive use of the lecture method of teaching
7. Closure and summary
8. Developing conclusions and generalizations
9. Voice-tone and attitude
10. Lack of enthusiasm
11. Rush--no time for students to think
12. More concern for subject and completion of lesson than student learning
13. Lack of opportunity for student discovery and creativity
14. Too many assumptions about student understanding, background, learning and needs
15. Mistakes in grammar and incomplete sentences
16. Too much expression of personal beliefs and experiences
17. Little student evaluation
18. Teacher sets standards and makes judgments
19. Student-to-student interaction limited
20. Student ability level not considered--all handled the same
21. Lack of organization--rambling
22. Time wasted on inappropriate activities
23. Teacher attitude dampens student spirit
24. Leads student thinking--stifles creative thinking
25. Treats students like children
26. Commands
27. Doesn't listen to student--cuts him off and injects own philosophy or ideas
28. Misinformation or outdated information dispensed

Improvements needed

1. Encourage more student leadership and discovery
2. Use varied approaches to learning
3. Solve discipline problems--learn to handle individual student needs
4. Curtail wandering from subject
5. Reevaluate teacher's role
6. Avoid personalities when discussing personal problems
7. Eliminate excessive note taking
8. Avoid repetition of specific words and terms
9. Provide more opportunities to make decisions
10. Move at slower pace--stress fewer learnings in a single lesson
11. Use a combination of sensory learning--seeing, hearing, doing, and feeling
12. Learn to question--too broad
13. Avoid negativism in subject matter, grading and behavior
14. Focus on climate for learning--physical setting
15. Prepare students for discussion and help them evaluate
16. Use more positive sanctions
17. Make better class preparation--develop thinking questions
18. Relate discussion to real situations
19. Help students with listening habits as well as study habits
20. Eliminate "I" from discussions
21. Have available facts when needed
22. Encourage interdepartmental cooperation--team teaching
23. Develop a sense of humor
24. Capitalize on student strengths and talents
25. Employ less teaching and more learning
26. Be realistic in expectation of student growth--they are learners
Fulfillment of Supervisory Purposes

Supervision is an expected function of educational consultants in the state department of education. New methods for enhancing the supervisory process must be acceptable to those involved and operational within the context of state government. The investigator, also the state consultant, developed and executed the experiment; therefore, her assessment of the experiment is considered essential to the findings of the study.

How acceptable, efficient and effective is the audiotape-telephone method in fulfilling the purpose of state supervision?

The state supervisor kept records of the time and cost involved in conducting the audiotape-telephone experiment. Departmental records were used to estimate the cost of face-to-face school contacts in order to compare the efficiency of the two methods. Personal observations and reactions were recorded throughout the study to use in evaluating the acceptability of the method and how successful it was in assisting local personnel.

Acceptability of the method to the state supervisor.--Personal familiarity with the school and many of the teachers and administrators influenced the supervisor's feelings of satisfaction with the method. She was able to visualize the environment in which the teacher worked, was aware of some administrative peculiarities and had observed the experienced teachers in previous years. An important ingredient "familiarity" was missed during early conferences with inexperienced teachers. Personal contacts had been made
with some of them at the undergraduate level but not enough rapport had been developed to satisfy the supervisor. This supports the need for personal contact with new and beginning teachers in the state.

There were several important advantages to the method which created considerable satisfaction for the supervisor. The image of supervision was enhanced and the teacher's perception of the supervisor's role changed. Teachers responded to the stimulation effect and gradually stopped asking "What should I do?" They became aware of personal strengths and inadequacies and sought guidance rather than direction. Being able to provide repeated support and encouragement was a positive feature.

There was less socializing and less emphasis on regulatory activities than previously which often consumed a large portion of the time during a school contact. An effort was made to limit "griping" but no attempt was made to evaluate the pros and cons of this approach. Personal and statistical data were collected at group meetings or from available departmental records making it possible to spend time on more important concerns, such as responding to teachers' requests and needs. Taped class sessions were evaluated in a relaxed atmosphere conducive to concentration.

The supervisor was organized and prepared for telephone conferences with teachers and this enhanced her feelings of accomplishments. Realistically, conferences after working hours were not as satisfying or feasible for the supervisor and would probably be eliminated or limited if audiotape-telephone supervision was
implemented as a regular activity. Perhaps the greatest reward was the feeling that the basic purpose of supervision was being realized. The attitude of the participants was outstanding and they became deeply concerned about their teaching performance. This was the kind of reaction the investigator had hoped to stimulate.

The supervisor learned a great deal about her own inadequacies, strengths and needs. The lack of personal contact meant verbal communication had to be adequate. It was difficult to keep from talking too much, giving too many directions, and to help individuals effectively in the decision-making process. Not all approaches were successful and some frustration resulted from unrealistic expectations. The supervisor needed to direct teaching objectives so that prime attention would be focused on the learning process. Removed from the actual classroom situation, she often forgot the real purpose of supervision--the student. This is a factor which cannot be overlooked if any supervisory technique is to be truly beneficial.

From a state supervisory point of view a most critical missing element can be labeled "public relations." Enhancing the state-local relationship and building a strong state-local partnership requires personal contact with those at all levels of local personnel. Promotion, development and expansion of programs are inherent in a state leader's role and can only be realized through involvement of all parties concerned. The politics of education must be considered if change is to occur, so direct communication with local superintendents of schools, principals, local supervisors, and department heads is necessary. Based on the results of past history, the supervisor
feels that physical departmental improvements and curriculum change can be influenced by on-the-spot evaluation, especially if federal funds are involved as in vocationally reimbursed programs.

In view of the many facets of a state supervisor's role, a combination of the audiotape-telephone technique and direct school contact would be the most acceptable method of state supervision.

**Efficiency of the method as a supervisory technique.**--It has been the policy of the Division of Vocational Education in the State Department of Education, where the experiment was undertaken, to spend a sufficient length of time at a school to make a comprehensive evaluation. Generally, a full day was required to travel to the school, evaluate, observe, confer, and then return. A review of past records indicated that approximately sixty individual school contacts were made by the supervisor each school year. All new and returning teachers were contacted individually at the beginning of each school year and other teachers were seen on a rotating basis. Priority was given to problem situations, requested visits, vocational programs, and where change is being introduced (construction, curriculum, and program expansion). If a teacher did not fall into one of these categories, the supervisor would probably see her face-to-face once every three years.

A minimum of one contact with each school in the study would have involved twenty-five days or five weeks of the supervisor's time. Three contacts, would have required seventy-five days or almost one half of the average school year. In such cases the teacher would spend most of her day (3-4 hours) with the supervisor or
involved in activities related to the supervisory contact. Consequently, the supervisor would spend the greater amount of time and expense in the supervisory process.

Cost is a factor in efficiency, also. No evaluation has been made of the face-to-face method; therefore, it was impossible to make a cost-benefit analysis. Considering the monetary aspect only, a minimum of one contact with each school in the study would have cost the state $1,391.88. (Table 4) A total of three contacts would have involved an expenditure of $4,175.64.

**TABLE 4**

**ESTIMATED COST OF FACE-TO-FACE SCHOOL CONTACTS**

(1 contact with 25 schools)

<table>
<thead>
<tr>
<th>Item</th>
<th>Total cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisor's Salary</td>
<td>25 days @ $48.02</td>
</tr>
<tr>
<td>Mileage</td>
<td>2236 miles @ .08</td>
</tr>
<tr>
<td>Meals</td>
<td>25 meals @ .50</td>
</tr>
<tr>
<td></td>
<td>(School rates)</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

An analysis was made of time and money spent on the audio-tape-telephone method of supervision experiment. The total cost of the seven-week study, which included three contacts with each teacher, was $1,100.83 (Table 5). It is impossible to make a justifiable comparison between the two methods because the installation of equipment and purchase of tapes would not be repeated each year under normal operating conditions ($90).
TABLE 5

COMPUTED COST OF AUDIOTAPE-TELEPHONE SUPERVISION
(3 contacts with 25 schools)

<table>
<thead>
<tr>
<th>Item</th>
<th>Total cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisor's Salary -20.1 days @ $48,02</td>
<td>$ 965.20</td>
</tr>
<tr>
<td>Installation of Equipment</td>
<td>15.00</td>
</tr>
<tr>
<td>Operation of Equipment 37 days @ .475</td>
<td>17.58</td>
</tr>
<tr>
<td>Telephone expenses--collect calls</td>
<td>16.99</td>
</tr>
<tr>
<td>WATS Overhead</td>
<td>11.06</td>
</tr>
<tr>
<td>Audiotapes</td>
<td>75.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1100.83</strong></td>
</tr>
</tbody>
</table>

Each taped class session was expected to be at least thirty minutes in length. However, in most cases, teachers recorded the entire class unless they became involved in laboratory activities. The average tape was fifty minutes in length. The investigator evaluated seventy-five tapes (three from each teacher) for a total time of 62.5 hours. After each tape was evaluated, approximately one hour was spent in planning, preparation, and recording data before each telephone conference was initiated.

The actual time spent on telephone conference was recorded and the final total for all conferences equalled 36.8 hours with an average of 29.5 minutes for each contact (Table 6).

Without including time spent on the preparation for group meetings and the study in general the investigator spent 160.8 hours on the actual experiment.

1. Time spent on telephone conferences . . . 36.8 hours
2. Time spent on tape evaluations . . . . . . 62.5 hours
3. Time spent on preparation for conferences . . . . . . . . . . . . . . . . . . 62.5 hours
### TABLE 6
TIME SPENT ON TELEPHONE CONFERENCES

<table>
<thead>
<tr>
<th>Session</th>
<th>Total Number of Minutes for All Conferences</th>
<th>Average Minutes per Conference</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (25 conferences)</td>
<td>855</td>
<td>34.2</td>
</tr>
<tr>
<td>II (25 conferences)</td>
<td>705</td>
<td>28.2</td>
</tr>
<tr>
<td>III (25 conferences)</td>
<td>649</td>
<td>25.9</td>
</tr>
<tr>
<td>Totals</td>
<td>2209 (36.8 hours)</td>
<td>88.3 (29.5 mins)</td>
</tr>
</tbody>
</table>

Teachers kept a record of the time they spent on the experiment including the group meetings, taping of class sessions, telephone conferences, and evaluation and preparation time. The average length of time spent on the study by each teacher was 28.8 hours (Table 7). This is equivalent to 3.6 days (8 hour working day).

### TABLE 7
TIME TEACHERS SPENT ON STUDY (N=25)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Total Time in Minutes</th>
<th>Average Hours per Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>School</td>
<td>Personal</td>
</tr>
<tr>
<td>Tape I</td>
<td>3530</td>
<td>2470</td>
</tr>
<tr>
<td>Tape II</td>
<td>3060</td>
<td>2135</td>
</tr>
<tr>
<td>Tape III</td>
<td>3110</td>
<td>2055</td>
</tr>
<tr>
<td>General—including group meetings</td>
<td>8960</td>
<td>17,750</td>
</tr>
<tr>
<td>Total Minutes</td>
<td>18,660</td>
<td>24,410</td>
</tr>
<tr>
<td>Total Hours</td>
<td>311</td>
<td>406.8</td>
</tr>
</tbody>
</table>
Another important factor considered in the acceptability of the method was the physical setting for conducting the experiment. The crowded conditions in the state consultant's office were not conducive to privacy and other needs of the experiment. The staff members of the Division of Vocational Technical Education graciously arranged schedules and space to assist the investigator. Often overloaded telephone circuits made it difficult to reach teachers as scheduled. Any adoption or adoption of audiotape-telephone supervision requires a well planned, equipped, and private facility for effective implementation. Adequate telephone communication is an absolute necessity.

The audiotape-telephone method of supervision, even if used in conjunction with face-to-face school contacts, is a time, cost, and energy saving technique for the supervisor. Efficiency needs to be considered in the total evaluation of any supervisory method but in its proper perspective.

Effectiveness of method in assisting local personnel.--The supervisor assumed a "stimulator" role throughout the study and attempted to assist the teachers in a self-evaluation process. As a result of this approach, teachers tried many new and different ideas to enhance the learning process and improve their teaching performance. The tape recorder was seen as a valuable addition to the classroom.

Small group discussions, role playing and student reports were recorded and later evaluated. In a few instances, individual students replayed class sessions which strengthened learning. The contributions of students during discussion sessions were seen in a
new perspective. An example of this fact was expressed by a teacher when she discovered that one of her students, who failed all written work, was asking the best questions and doing the best thinking in class. The teacher remarked, "I always thought she was stupid." Another teacher became aware, for the first time, that one student was not participating and she realized that the student had not contributed during the entire year. As a result of this discovery, the teacher made an extra effort to involve the student and progress was realized.

Many positive aspects of the study have already been discussed which provide evidence to confirm the effectiveness of the method in assisting local personnel. The following examples illustrate how the experiment provided impetus for change in four distinctly different areas:

1. The principal in one school became interested in the study because he had reservations about the value of audiotapes in supervision. He felt it would be impossible to get a true picture of the situation or enough information with which to evaluate and make judgments. The principal worked closely with the teacher. He listened to all her tapes and held a conference with her after hearing each. As a result, he gave his full support to the study and carried the idea into his own supervisory activities within the school.

2. One teacher chose to work with a special class of retarded junior high school students. Her efforts and rapport with this group can only be appreciated by listening to the taped class sessions. Unexpectedly, significant results developed from her participation
The students in the class were informed that they were selected for a "special" study. This stimulated them to such a degree that others throughout the entire school became aware of their change in attitude, interest and enthusiasm. The verbal response from the eight retarded youngsters was outstanding. During the first taped class session 68 responses were recorded (12 from a child with Aphasia), 66 on the second tape, and 79 on the third.

The principal of the school asked the investigator to make a copy of one tape which he played for the local board of education. His purpose was to reinforce the need for additional space and staff to work with the retarded children in the district and the tape was used to illustrate what can be accomplished with these youngsters.

The English teacher in the same school listened to the tapes and used new words discussed in home economics class to develop a vocabulary list for the students.

3. Another teacher elected to work with a class of superior ability junior high school students. The class members had a reputation for poor participation throughout their school years. The faculty identified the problem as a reluctance to make mistakes which might endanger their grade point standing. The class was informed that taped recordings of the class session were to be sent to the state consultant. Upon hearing the first tape, the class was extremely unhappy and realized how little they contributed. They asked to repeat the session and definite improvement resulted.
4. It was evident to the supervisor as she evaluated the first taped class session of one teacher, that a negative attitude was being projected through her voice and comments. Students reacted defensively and several confrontations erupted. The supervisor knew the teacher quite well and was able to analyze the situation cooperatively with her. In order to emphasize the seriousness of the problem, the consultant mailed the teacher two tapes, one was the taped class session and the other was the tape of the conversation between the teacher and the supervisor. The teacher was asked to listen to both and compare voice tone and attitude projected. This technique was instrumental in stimulating the teacher to ask the students to evaluate classes and make suggestions for teacher, student and general improvement in the classroom climate. The teacher was gratified with the results even though she did not achieve all her desired goals. Her ability to evaluate herself honestly was one of the highlights of the study.

Requests, related and unrelated to the experiment, were fulfilled by the supervisor throughout the experiment. The following items were distributed:

1. Consumer education materials
2. Text and reference books
3. Ideas for learning experiences
4. Sample case studies and suggested usage
5. Curriculum guides
6. Information on working with slow learners and behavior problems
Two school visitations were arranged for teachers. A teacher who had no education background or student teaching experience was encouraged to observe other teachers in the school for help on basic classroom procedures and teaching techniques.

During telephone conferences many topics of interest and concern were discussed with the teachers. Discussions covered such areas as professional activities, youth organizations, student teaching, interdepartmental cooperation, graduate study, social problems, and educational philosophy (Appendix F).

Local administrators did not receive sufficient information about the study to develop an understanding of the purposes and procedures involved. Frequent contact with principals might have initiated support for teachers participating and made them aware of the possible implications for general supervision. If the study had been undertaken earlier in the year, teachers would have had an opportunity to implement change when their enthusiasm was high.

**Reactions of Experienced and Inexperienced Teachers**

A state supervisor must consider the unique concerns and needs of different individuals and groups in order to provide adequate and relevant assistance. The four instruments administered to teachers were designed to solicit reactions which would give the supervisor direction in this area.
Will there be a significant difference in the reactions of experienced and inexperienced teachers to the audiotape-telephone method of supervision?

The two groups of teachers were asked how satisfied they were with the help received from the state consultant and the method as a supervisory technique. In addition, they rated their ability to interact verbally with the state consultant during telephone conferences, perceived growth and/or improvement, and the degree of apprehension experienced throughout the study.

Analysis of post-test scores relative to help received. -- In order to determine statistically if experienced and inexperienced teachers differed in their impressions of the help they received from the state supervisor, a null hypothesis was tested.

There is no significant difference in the post-test scores of experienced and inexperienced teachers relative to satisfactions with the help received from the state consultant.

A chi square test was applied which yielded a computation of 1.74 which was not significant (Table 8).

The null hypothesis was not rejected.

Experienced teachers were generally satisfied with the help they received from the state consultant. Of the 160 responses recorded on the ten item instrument only 11 fell below a favorable rating. Thirty-one percent (5) had a neutral reaction to the item which indicated if help was imposed or solicited. Two teachers felt the help was too general as opposed to specific and two checked a neutral position in rating if the help was necessary or unnecessary. The majority felt the help was positive, meaningful, sufficient,
relevant, clear, appropriate, well-timed and necessary. The highest percentage for a favorable item recorded was 81 for positive help.

TABLE 8
CHI-SQUARE PROBLEM
DIFFERENCES IN SCORES-HELP RECEIVED FROM STATE CONSULTANT

<table>
<thead>
<tr>
<th></th>
<th>Low</th>
<th>Average</th>
<th>High</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A-B</td>
<td>C</td>
<td>D-E</td>
<td></td>
</tr>
<tr>
<td>Experienced Teachers</td>
<td>1</td>
<td>10</td>
<td>149</td>
<td>160</td>
</tr>
<tr>
<td>Inexperienced Teachers</td>
<td>0</td>
<td>9</td>
<td>81</td>
<td>90</td>
</tr>
</tbody>
</table>

- Experienced Teachers: 0.640 12.169 147.20
- Inexperienced Teachers: 0.360 6.840 82.80

Degrees of freedom = 2
Chi square = 1.74

The responses of inexperienced teachers covered a wider range than for experienced teachers. Of 90 responses, 9 rated "help received" as neutral, 24 said it was favorable and 57 thought it was highly favorable. Slightly over 78 percent felt the help was meaningful, relevant, clear and appropriate. Of the remaining items, positive, sufficient, solicited, specific, well-timed and necessary, the responses ranged between a neutral position and highly favorable. The mean scores for experienced teachers were .406 and for inexperienced teachers .466. The highest possible rating was 0 and the lowest received a rank of 5. There was a .06 difference between the scores of the two groups.
Analysis of post-test scores relative to the method.—Once again, a null hypothesis was tested to determine teachers' satisfactions with the audiotape-telephone method of supervision.

There is no significant difference in the post-test scores of experienced and inexperienced teachers relative to the efficiency, effectiveness and satisfaction with the method of supervision.

A chi square test was used to determine the significance of differences between the two groups on efficiency (Table 9), effectiveness (Table 10), and satisfactions (Table 11). The evidence indicates a significant difference at the .05 level on all three variables.

The null hypothesis was rejected.

TABLE 9

CHI SQUARE PROBLEM
DIFFERENCES IN SCORES--EFFICIENCY OF METHOD

<table>
<thead>
<tr>
<th>Observed Values</th>
<th>Low</th>
<th>Average</th>
<th>High</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experienced Teachers</td>
<td>14</td>
<td>57</td>
<td>249</td>
<td>320</td>
</tr>
<tr>
<td>Inexperienced Teachers</td>
<td>4</td>
<td>25</td>
<td>151</td>
<td>180</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>82</td>
<td>400</td>
<td>500</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expected Value Matrix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experienced Teachers</td>
</tr>
<tr>
<td>Inexperienced Teachers</td>
</tr>
</tbody>
</table>

Degrees of freedom - 2
Chi square - 6.48*

* Significant at .05 level
### TABLE 10

**CHI SQUARE PROBLEM**

**DIFFERENCES IN SCORES—EFFECTIVENESS OF METHOD**

<table>
<thead>
<tr>
<th>Observed Values</th>
<th>Low</th>
<th>Average</th>
<th>High</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A-B</td>
<td>C</td>
<td>D-E</td>
<td></td>
</tr>
<tr>
<td>Experienced Teachers</td>
<td>9</td>
<td>43</td>
<td>268</td>
<td>320</td>
</tr>
<tr>
<td>Inexperienced Teachers</td>
<td>4</td>
<td>23</td>
<td>153</td>
<td>180</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>66</td>
<td>421</td>
<td>500</td>
</tr>
</tbody>
</table>

**Expected Value Matrix**

<table>
<thead>
<tr>
<th>Expected Value Matrix</th>
<th>Experienced Teachers</th>
<th>Inexperienced Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8.320</td>
<td>42.240</td>
</tr>
<tr>
<td></td>
<td>4.680</td>
<td>23.760</td>
</tr>
</tbody>
</table>

Degrees of freedom - 2

Chi square - 7.06*

* Significant at .05 level

### TABLE 11

**CHI SQUARE PROBLEM**

**DIFFERENCES IN SCORES—SATISFACTION WITH METHOD**

<table>
<thead>
<tr>
<th>Observed Values</th>
<th>Low</th>
<th>Average</th>
<th>High</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A-B</td>
<td>C</td>
<td>D-E</td>
<td></td>
</tr>
<tr>
<td>Experienced Teachers</td>
<td>13</td>
<td>43</td>
<td>264</td>
<td>320</td>
</tr>
<tr>
<td>Inexperienced Teachers</td>
<td>4</td>
<td>20</td>
<td>156</td>
<td>180</td>
</tr>
<tr>
<td></td>
<td>17</td>
<td>63</td>
<td>420</td>
<td>500</td>
</tr>
</tbody>
</table>

**Expected Value Matrix**

<table>
<thead>
<tr>
<th>Expected Value Matrix</th>
<th>Experienced Teachers</th>
<th>Inexperienced Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10.880</td>
<td>40.320</td>
</tr>
<tr>
<td></td>
<td>6.120</td>
<td>22.680</td>
</tr>
</tbody>
</table>

Degrees of freedom - 2

Chi square - 7.71*

*Significant at .05 level
In order to obtain the reactions of teachers about this new method of supervision, two major areas were evaluated: (1) the mechanics of the method, and (2) the method as an evaluative technique (Appendix F).

Eight items which related primarily to time, equipment, preparation, and energy output were included in this part of the instrument. Each item was rated on efficiency, effectiveness and satisfaction (total of 24 responses). Percentage ratings on each response were compiled separately for experienced and inexperienced teachers but few negative reactions were recorded. This indicates that early difficulties with the equipment were overcome. Of the 216 responses of 9 inexperienced teachers, 6 were ranked unfavorable. Experienced teachers (16) rated 17 of their 384 responses unfavorable. Personal effort required and use of the telephone were most favorable; quality of sound recordings and equipment problems, lowest; and items concerned with the recorder and time were ranked from neutral to favorable.

The same five-point instrument design was used in this section which contained twelve items (3 responses for each). The lowest score marked by experienced teachers was "The value of the method in stimulating self-improvement." This item received the widest distribution of scores from all teachers although no negative responses were reported. Sixteen experienced teachers answered 576 items and rated only 19 as unfavorable, and 9 inexperienced teachers making 324 rankings, placed 19 at an unfavorable level.
Analysis of ability to interact with the state consultant.—
Throughout this study interaction between the teacher and supervisor was primarily verbal because the telephone was used as the communications device. Teachers had an opportunity to talk and to listen. They indicated the degree to which they were able to (1) listen, (2) ask for, (3) offer, (4) accept, and (5) reject five major elements of interaction (information, clarification, opinions, suggestions, and directions or regulations).

A null hypothesis was tested to ascertain if any significance of differences existed between the two groups.

There is no significant difference in the post-test scores of experienced and inexperienced teachers relative to their ability to interact verbally with the state supervisor.

A chi-square test was applied to the scores resulting in a computation of 69.9 which is significant at the .001 level (Table 12).

The null hypothesis was rejected.

TABLE 12
CHI SQUARE PROBLEM
DIFFERENCES IN SCORES--ABILITY TO INTERACT WITH SUPERVISOR

<table>
<thead>
<tr>
<th></th>
<th>Low A-B</th>
<th>Average C</th>
<th>High D-E</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experienced Teachers</td>
<td>0</td>
<td>33</td>
<td>367</td>
<td>400</td>
</tr>
<tr>
<td>Inexperienced Teachers</td>
<td>14</td>
<td>61</td>
<td>150</td>
<td>225</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>94</td>
<td>517</td>
<td>625</td>
</tr>
</tbody>
</table>

Expected Value Matrix

<table>
<thead>
<tr>
<th></th>
<th>Experienced Teachers</th>
<th>Inexperienced Teachers</th>
<th>Degrees of freedom - 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8.960</td>
<td>60.160</td>
<td>330.880</td>
</tr>
<tr>
<td></td>
<td>5.040</td>
<td>33.840</td>
<td>186.120</td>
</tr>
</tbody>
</table>

Chi square - 69.9*

*Significant at .001 level
A five-point scale was used for ranking ability to interact; A-almost never, B-sometimes, C-usually, D-most of the time, and E-always. Experienced teachers had no difficulty interacting verbally as only favorable scores were reported (D and E). Ability to exchange specific information was ranked lowest (D-Most of the time). Inexperienced teachers scores slightly lower on total responses and recorded five "usually" scores. Generally, the scores of inexperienced teachers were more evenly distributed between "usually" and "always" than the other group; therefore, percentage ratings were universally lower (Appendix F). The mean scores of both groups indicate that inexperienced teachers ranked ability to "ask for" and "reject" the major elements of interaction lower than their ability to "listen, offer and accept." Experienced teachers ranked their ability to "listen" as most difficult (Table 13).

TABLE 13
MEAN SCORES ON TEACHERS' ABILITY TO INTERACT WITH STATE CONSULTANT

<table>
<thead>
<tr>
<th>Ability to Interact</th>
<th>Experienced N=16</th>
<th>Inexperienced N=9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listen</td>
<td>.312</td>
<td>.222</td>
</tr>
<tr>
<td>Ask</td>
<td>.062</td>
<td>.511</td>
</tr>
<tr>
<td>Offer or Give</td>
<td>.100</td>
<td>.444</td>
</tr>
<tr>
<td>Accept</td>
<td>.087</td>
<td>.266</td>
</tr>
<tr>
<td>Reject</td>
<td>.087</td>
<td>.533</td>
</tr>
</tbody>
</table>

*Numerical equivalents for letter rankings: A=4, B=3, C=2, D=1, and E=0.
The Spearman Rank Correlation Coefficient was used to compute the relationship between post-test scores on (1) ability to exchange five elements of interaction and (2) amount of interaction on each element. Due to the limited number of possible responses on each item (5) the resulting data produced too many tied scores to make a valid statistical analysis (Appendix G).

Thirteen experienced teachers rated their ability to interact on all five elements and the amount of exchange on each element as equally favorable. One teacher checked a neutral position for the amount of clarification exchanged, and an unfavorable amount of exchange in the regulatory area. The remaining two teachers checked a neutral position for exchange of opinions and suggestions although their ability to interact in both areas was ranked favorable.

Four inexperienced teachers indicated a favorable amount of relationship between ability to interact and amount of exchange on all five elements. This relationship was not as close for the remaining four teachers who said that little clarification had been accomplished. Two ranked a neutral position for exchange of suggestions. A neutral reaction was also recorded by two inexperienced teachers relative to their ability "to reject" or "ask for" opinions and another teacher ranked the same position for her ability to "ask for" and "listen to" opinions.

Perceptions of growth and/or improvement.—Teachers evaluated the overall growth and improvement which they perceived had taken place during the study. Generally, more overall growth was perceived in the teaching process than the learning process by both groups
(Appendix F). The mean score for overall improvement for experienced teachers was 1.447, and 1.253 for inexperienced teachers (favorable). The highest possible score was 0. There was a difference in the perceived growth between the two groups with a higher percentage of the inexperienced teachers rating in the favorable category (Tables 14 and 15). The only area receiving no unfavorable responses from both groups was "self-evaluation and analysis."

Apprehension experienced.—Fourteen procedural steps in the study were identified and teachers were asked to rate how apprehensive they felt at each step. A higher percentage of experienced teachers responded to "extreme apprehension" than inexperienced teachers; however, slight apprehensive feelings remained with more inexperienced teachers as the study progressed (Table 16). Over 60 percent of both groups reported little or no apprehension during the study.

The greatest degree of apprehension was reported by experienced teachers during the first recorded class session (50 percent), when securing and using the equipment for the first time (31 percent), and when evaluating the first class session (31 percent). Inexperienced teachers were most apprehensive upon being selected as a participant in the study (40 percent), and during the first telephone conference (33 percent). As the study progressed apprehension declined in both groups (Appendix F).
<table>
<thead>
<tr>
<th>Item</th>
<th>Percentage Responding</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td>1. Organization and planning of lesson</td>
<td></td>
</tr>
<tr>
<td>Experienced teachers</td>
<td>0</td>
</tr>
<tr>
<td>Inexperienced teachers</td>
<td>0</td>
</tr>
<tr>
<td>2. Achievement of lesson objectives</td>
<td></td>
</tr>
<tr>
<td>Experienced teachers</td>
<td>0</td>
</tr>
<tr>
<td>Inexperienced teachers</td>
<td>0</td>
</tr>
<tr>
<td>3. Evaluation of lessons</td>
<td></td>
</tr>
<tr>
<td>Experienced teachers</td>
<td>0</td>
</tr>
<tr>
<td>Inexperienced teachers</td>
<td>0</td>
</tr>
<tr>
<td>4. Teaching techniques and methods</td>
<td></td>
</tr>
<tr>
<td>Experienced teachers</td>
<td>0</td>
</tr>
<tr>
<td>Inexperienced teachers</td>
<td>0</td>
</tr>
<tr>
<td>5. Classroom climate</td>
<td></td>
</tr>
<tr>
<td>Experienced teachers</td>
<td>6</td>
</tr>
<tr>
<td>Inexperienced teachers</td>
<td>0</td>
</tr>
<tr>
<td>6. Learning experiences and activities</td>
<td></td>
</tr>
<tr>
<td>Experienced teachers</td>
<td>6</td>
</tr>
<tr>
<td>Inexperienced teachers</td>
<td>0</td>
</tr>
<tr>
<td>7. Quality of teacher-talk</td>
<td></td>
</tr>
<tr>
<td>Experienced teachers</td>
<td>0</td>
</tr>
<tr>
<td>Inexperienced teachers</td>
<td>0</td>
</tr>
<tr>
<td>8. Appropriate amount of teacher talk for the lesson</td>
<td></td>
</tr>
<tr>
<td>Experienced teachers</td>
<td>0</td>
</tr>
<tr>
<td>Inexperienced teachers</td>
<td>0</td>
</tr>
<tr>
<td>9. Self-evaluation and analysis</td>
<td></td>
</tr>
<tr>
<td>Experienced teachers</td>
<td>0</td>
</tr>
<tr>
<td>Inexperienced teachers</td>
<td>0</td>
</tr>
<tr>
<td>10. Identification of student learning problems</td>
<td></td>
</tr>
<tr>
<td>Experienced teachers</td>
<td>0</td>
</tr>
<tr>
<td>Inexperienced teachers</td>
<td>0</td>
</tr>
<tr>
<td>Item</td>
<td>Percentage Responding</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Student motivation and interest</td>
<td></td>
</tr>
<tr>
<td>Experienced teachers</td>
<td>0 19 25 31 25</td>
</tr>
<tr>
<td>Inexperienced teachers</td>
<td>0 0 67 33 0</td>
</tr>
<tr>
<td>2. Quality of student talk</td>
<td>0 13 31 25 31</td>
</tr>
<tr>
<td>Experienced teachers</td>
<td>0 0 44 44 11</td>
</tr>
<tr>
<td>Inexperienced teachers</td>
<td></td>
</tr>
<tr>
<td>3. Amount of student involvement</td>
<td>0 19 31 22 25</td>
</tr>
<tr>
<td>Experienced teachers</td>
<td>0 11 11 56 22</td>
</tr>
<tr>
<td>Inexperienced teachers</td>
<td></td>
</tr>
<tr>
<td>4. Classroom behavior</td>
<td>6 19 38 25 13</td>
</tr>
<tr>
<td>Experienced teachers</td>
<td>0 11 44 44 0</td>
</tr>
<tr>
<td>Inexperienced teachers</td>
<td></td>
</tr>
<tr>
<td>5. Critical thinking</td>
<td>0 25 25 25 25</td>
</tr>
<tr>
<td>Experienced teachers</td>
<td>0 0 33 67 0</td>
</tr>
<tr>
<td>Inexperienced teachers</td>
<td></td>
</tr>
<tr>
<td>6. Self-evaluation</td>
<td>6 13 13 38 31</td>
</tr>
<tr>
<td>Experienced teachers</td>
<td>0 0 33 67 0</td>
</tr>
<tr>
<td>Inexperienced teachers</td>
<td></td>
</tr>
<tr>
<td>7. Ability to generalize and draw</td>
<td>13 6 44 31 6</td>
</tr>
<tr>
<td>conclusions</td>
<td></td>
</tr>
<tr>
<td>Experienced teachers</td>
<td>0 11 0 67 22</td>
</tr>
<tr>
<td>Inexperienced teachers</td>
<td>0 11 56 22 11</td>
</tr>
<tr>
<td>8. Attitude</td>
<td>6 0 31 44 19</td>
</tr>
<tr>
<td>Experienced teachers</td>
<td></td>
</tr>
<tr>
<td>Inexperienced teachers</td>
<td>0 11 56 22 11</td>
</tr>
<tr>
<td>Group</td>
<td>Extreme Apprehension</td>
</tr>
<tr>
<td>---------------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Experienced teachers</td>
<td>18.3</td>
</tr>
<tr>
<td>(N=16)</td>
<td></td>
</tr>
<tr>
<td>Inexperienced teachers</td>
<td>11.8</td>
</tr>
<tr>
<td>(N=9)</td>
<td></td>
</tr>
</tbody>
</table>

In summary, the data analyzed indicated that the audiotape-telephone method proved to be an acceptable, satisfying and successful technique for supervising local home economics teachers. However, in implementation of the method a desirable amount of personal contact should be given consideration. This may be in group situations, contact with the school to review facilities and become acquainted, or for purposes other than direct supervision of the teacher.
CHAPTER V
SUMMARY AND IMPLICATIONS

A proliferation of administrative and supervisory activities and responsibilities in state departments of education has created a dilemma which demands immediate attention and analysis. It is unrealistic to pretend that a state supervisor can continue to provide adequate, individual, on-the-spot supervision of a growing population of local teachers; however, to be able to function as an educational leader and still retain personal contact with teachers is a difficult goal to achieve. In response to this challenge a study was designed to determine the feasibility of a new approach to state supervision which eliminated face-to-face school contacts and classroom observations. The plan utilized two types of communication media readily available in most public schools, the telephone and audiotape recorder.

The study was undertaken in a normal environment. The state supervisor (investigator), with the cooperation of twenty-five experienced and inexperienced local teachers, participated in an experiment which involved the use of an audiotape-telephone technique for a seven-week period.

A preliminary orientation meeting was held with all participating teachers to initiate the study. Teachers audiotape-recorded
a selected class session and evaluated the results. The teachers' goal was to improve classroom interaction through improved discussion techniques. These same tapes were sent to the supervisor to be evaluated. Subsequently, the supervisor contacted the teacher by telephone and discussed the tapes and other pertinent issues. This verbal telephone conference was the focus of the supervisory process. The entire process was repeated three times. At the completion of the experiment another group meeting was held to evaluate the study. No attempt was made to measure how much improvement occurred throughout the study or possible "Hawthorne Effect." A post-test was administered to determine teachers' satisfactions with the help received from the state consultant; the efficiency, effectiveness and satisfactions with the method; and ability to interact verbally during telephone conferences with the consultant. Reactions were also secured relative to perceived growth and apprehension felt during the study. Since no instruments had been constructed to measure the variables under consideration, the investigator developed the ones administered as a post-test.

In this study, supervision was perceived as a humanizing process based on the philosophy that the role of the supervisor is to stimulate teachers, through self-evaluation, to enhance the learning-teaching process; therefore, evaluative opinions and suggestions were obtained from participants regarding the value of the method in stimulating self-evaluation and the effectiveness of the approach as a supervisory technique. Additional data were collected from audiotapes of telephone conferences, free response questions,
and oral discussions at group meetings. The state consultant's evaluation (investigator) was included in the findings.

In order to determine the feasibility of the method as a state-level supervisory technique, answers to the following four research questions were sought:

1. Are the audiotape recorder and telephone acceptable media for assisting local teachers?

2. How effective is the audiotape-telephone method of supervision in stimulating teacher self-evaluation?

3. How acceptable, efficient and effective is the audiotape-telephone method in fulfilling the purpose of state supervision?

4. Will there be significant differences in the reactions of experienced and inexperienced teachers to the audiotape-telephone method of supervision?

The summary of findings which follows is based on an analysis of the responses, opinions, and suggestions of all participants. The reader should consider the presentation in reference to the state in which the study was undertaken for the results may or may not be applicable to other situations. Implications are presented for consideration by the state supervisor and local personnel. Suggestions for further refinement and investigation of the method are offered.

Acceptance of Media to Teachers

Since the tape recorder and telephone were unusual supervisory tools in supervision, it was important to discover the acceptability of these devices and their effect on all participants. Therefore, teachers responded to seven sub-questions in order to
answer the first research question.

Acceptability of audiotape recorder to students

Contrary to the initial opinions of teachers, most students were not adversely affected by the presence of the tape recorder in the classroom. In two cases, a negative reaction was noted but in all other instances the technique generated student enthusiasm and response. The most common comment was that initial feelings of reserve and hesitation disappeared and a normal classroom climate resulted.

Acceptability of audiotape recorder to teachers

Teacher's personal reactions to the recorder in the classroom were similar to those of the students. As the experiment progressed apprehension disappeared and they soon forgot the equipment was there. Only one teacher said she couldn't forget the presence of the recorder. The majority of the teachers concluded that they were more at ease with the recorder than they would be under direct supervision.

Difficulties encountered by teachers

During the early phases of the study, teachers expressed considerable frustration with the recording equipment, especially the experienced teachers. This problem decreased as they learned to operate the equipment. Several teachers did not have a recorder at their disposal for continuous use and found it difficult to
schedule their time systematically.

Teachers of senior high school classes felt another time of year would have been better for the study because seniors lose their incentive as the end of the school year draws near. Two teachers experienced outside interference from school building construction which affected the quality of the sound recordings.

Unavoidable problems such as personal illness and family concerns affected the participation of three teachers. One teacher indicated a lack of student cooperation and another had no choice in selecting an area of study which would have been appropriate for discussion purposes.

Acceptability of telephone as a supervisory technique

Universal use and familiarity with the telephone meant few problems were encountered with this supervisory tool. A telephone was accessible and the relaxed, uninterrupted atmosphere surrounding the telephone conference was a positive feature. The length of time spent on each telephone contact decreased as the study progressed and the range for time spent on the telephone conferences was seventy-six minutes. A total of seventy-five consultant initiated telephone conferences and ten teacher initiated contacts were completed during a seven-week period.
Acceptability of method to teachers

A limited assessment was made of the opinions of sixteen experienced teachers who had participated in both methods of supervision at some time during their teaching experience. Of the twenty-five reactions recorded, the most often mentioned value of a face-to-face contact was evaluation of physical facilities. Second in importance was the need to know the individual teacher personally; and third, the social aspect of a personal visit was considered satisfying.

The entire group of experienced teachers who had been exposed to both types of supervision stated that they preferred the audiotape-telephone method or a combination of the audiotape-telephone method and personal contacts. No one selected the school visit as the preferred sole type of supervision. The influence of the self-evaluative process which teachers had just experienced must have been rewarding. They felt that a more natural, normal climate for evaluation existed by using the tape recorder than with another person in the room.

In addition, all teachers were asked if they felt the method had merit. All responded in the positive but most of them suggested using it in conjunction with personal contacts. The need for a competent supervisor who will listen attentively to individual teacher problems, and spacing of taped sessions throughout the year, were offered as ideas for strengthening the method. Most of the teachers exhibited an awareness of the impossible task of a supervisor
being available for consultation with all teachers on a face-to-face basis and were cognizant of the need to develop new supervisory techniques.

Acceptability of media for uses other than audiotape-telephone supervision

Approximately one half the teachers plan to purchase, or ask the school to purchase, a tape recorder for their exclusive use in the classroom because they identified many additional uses for the device such as recording guest lectures, classroom activities, material for absentees, lessons for a substitute teacher, special television programs, and individualizing instruction.

They also suggested that the supervisor use tapes as a means of dispensing new ideas and information to teachers in the field. The possibility of local administrators using this supervisory approach was considered important. The value of tapes in enhancing the learning process for students was realized but more help is needed to perfect this approach, apparently.

Effect of method on relationship with state consultant

Teachers said that a good relationship developed with the supervisor and they would feel free and comfortable about contacting her for additional help. Half of the teachers obviously interpreted the question in a negative sense and said their relationship with the consultant had not been affected by the study.

On the basis of these findings an affirmative answer can be given to the question, "Are the audiotape recorder and telephone
acceptable media for assisting local teachers?" Although strong support was given to the use of these supervisory tools, even stronger support was given to a concept of supervision which utilizes both the face-to-face school contact and audiotape-telephone techniques.

Effectiveness of Method in Stimulating Self-Evaluation

The second research question, relative to the effectiveness of the method in stimulating teacher-self evaluation was evaluated in terms of teachers responses to several sub-questions, an analysis of reactions to the use of the telephone, and from oral responses at a post-evaluative group conference.

Value of study to teachers

It was found that teachers endorsed the method as an effective means of stimulating self-evaluation by rating it the most valuable aspect of the study. This was evident in both oral and written responses. The opportunity provided to hear themselves was a new experience which stimulated awareness of inadequacies not always considered (i.e., voice tone). Initial fears were replaced with a desire to share results of taped class sessions; thus, many teachers helped themselves and the students through cooperative evaluation. The majority checked a neutral position in relation to the method as a technique for stimulating self-improvement. Perhaps the time allowed to complete the study was responsible for this fact or additional guidance may be needed on how self-improvement can be realized.
Least valuable aspects of the study

The findings show that few teachers were able or unwilling to identify unfavorable aspects in the experiment. A total of 68 percent of those participating did not answer the question or stated that they couldn't think of an appropriate comment. Concern was expressed for the lack of time to use the tapes effectively in enhancing student learning and to make acceptable progress. One teacher thought the study should have focused on individual teacher problems rather than classroom interaction.

Discussions at post-evaluative group conferences

Teachers' opinions expressed at the final group conference stressed the need for some personal contact with the state supervisor, especially with beginning and new teachers in the state. All thought consideration needs to be given to the physical environment in order to improve the learning climate. A favorable reaction was expressed for the group meetings, materials used during the study, and the telephone conferences. All desired a better introduction than they experienced in the use of new equipment. A new perspective on their personal influence on student learning emerged. It was emphasized that lack of administrative support seriously affected their willingness and desire to change.
Effectiveness of telephone conferences in stimulating self-evaluation

Discussions during recorded telephone conferences focused primarily on a cooperative evaluation of taped class sessions and the teachers performance in the classroom.

The supervisor observed that classes were generally free and relaxed. Teachers used a variety of teaching methods and encouraged student participation. In most cases they were well organized and deeply concerned about the learning environment. Major weaknesses identified cooperatively were: teacher domination, lack of clearly defined objectives, weak summarization and/or closure, emphasis on detail or "trivia," monotonous voice projection, too much attention on teaching rather than learning, and lack of opportunity for students to generalize and draw conclusions.

All of the evidence indicated that the audiotape-telephone method of state supervision was effective in stimulating teacher self-evaluation. Additional assistance must be given teachers so they can take the next vital steps in evaluation of their role as a teacher and in their self-improvement.

Fulfillment of Supervisory Purposes

Sub-questions were designed to ascertain the personal and factual observations of the state supervisor (investigator). These observations were considered essential in determining if the method was operable within the context of state government and successful in fulfilling the purposes of state supervision.
Acceptability of method to state supervisor:

Personal familiarity with all the schools and many of the teachers was a distinct advantage in assisting teachers. Greatest satisfaction was received from the change in the teacher's perceptions of a supervisor's role and the image of supervision in general. The method provided an opportunity to give repeated encouragement and support to local personnel which stresses the value of "follow-up" efforts.

The supervisor had sufficient time to prepare for conferences (telephone) and evaluate the teaching-learning process. Evening telephone contact required additional supervisory time and would not be feasible as a regular activity.

The audiotape-telephone method did not provide for direct contact at the local level which is needed with new teachers and to review the total environment. From a state supervisory point of view this is significant. Opportunities to enhance the state-local partnership is missing and there is a need to contact persons at all levels of the hierarchy in order to promote program expansion and development. On-the-spot evaluations and suggestions sometimes carry more weight and produce faster results than could be realized without personal contact.

Efficiency of the method as a supervisory technique

The usual approach to state supervision is through individual face-to-face school contacts. Approximately sixty such contacts can be made each school year requiring one full day for each contact.
This is costly and time consuming and almost no follow-up is undertaken except that a written report of the supervisor's evaluation is sent to local personnel. No measurement of the value of these contacts has ever been made; therefore, no legitimate comparison was possible in this study. It was estimated that one face-to-face contact with each school in this study would have cost the state $1,391.88 and would have required twenty-five days or five weeks of the supervisor's time. To make three contacts (as was done in the audiotape-telephone experiment), seventy-five days or almost one-half of the school year would have been required at a cost of $4,175.64. The supervisor spent a total of 160.8 hours on the audiotape-telephone experiment (20.1 days) during which eighty-five telephone conferences and seventy-five class evaluations were completed at a computed cost of $1,100.83. In addition, two group conferences were held with the teachers involved.

The most negative aspects of the study were the lack of space and privacy in the state office and the inadequacy of the state's telephone network. The latter made it difficult to reach teachers as scheduled.

Effectiveness of method in assisting local personnel

The "stimulation" effect provided by the method was instrumental in encouraging teachers to attempt a variety of teaching techniques. In one instance, the experiment stimulated a principal to become deeply involved in the study and his teacher's progress. He applied the procedures with others on his staff. A teacher, working
with special (retarded) students produced an excellent tape which was used to solicit school board support for improved facilities for these students. Another teacher was able to make progress toward improving her attitude in the classroom. The supervisor was able to fulfill many of the teachers' needs for information, materials, and matters of general professional concern.

Most significant is the fact that remote supervision removes the supervisor from contact with the students; therefore, considerably more attention needs to be given to the learning process and other student related concerns.

In essence, the supervisor found the method generally acceptable, efficient, and effective. Her feelings were strongly influenced by personal familiarity with local personnel and facilities which was an important factor in the success of the experiment. The need for personal contact cannot be overlooked, thus a combination of face-to-face school contacts and audiotape supervision which focuses attention on the learning process for students are considered most desirable.

Reactions of Experienced and Inexperienced Teachers

Three null hypothesis were tested to determine if significant differences existed between the post-test scores of experienced (16) and inexperienced teachers (9) on their satisfactions with the help received, the method as a supervisory technique, and their ability to interact verbally with the state consultant. All results were evaluated at the .05 level of confidence. In addition, teachers rated perceived growth and/or improvement and the degree of
Satisfaction with help received

Mean scores confirmed that both the experienced and inexperienced teachers were satisfied with the help received from the state consultant during the study. No unfavorable responses were recorded on the ten item instrument.

The following null hypothesis was tested:

There is no significant difference in the post-test scores of experienced and inexperienced teachers relative to satisfactions with the help received from the state consultant.

A chi square test yielded a computation of 1.74 (P. 05 ≥ 5.99) which was not significant.

The null hypothesis was not rejected.

Satisfaction with method

Two major aspects of the method were explored: the mechanics of the method, and the method as an evaluative technique. Both aspects were rated on efficiency, effectiveness, and satisfaction.

Early difficulties with the tape recording equipment were overcome. There was some concern expressed for the quality of the recordings (sound), the length of the study to accomplish what they desired, and the time of year (too close to the end of the school year). Although reactions were favorable, the rankings were not as high on efficiency and effectiveness as for satisfactions. No extra effort was required for the experiment and no problems were recorded with the use of the telephone.
The majority felt the method was favorable as an evaluative technique but better for personal self-evaluation than student self-evaluation. It was favorably ranked as a self-improvement technique but not as high as for self-evaluation.

The following null hypothesis was tested:

There is no significant difference in the post-test scores of experienced and inexperienced teachers relative to the efficiency, effectiveness and satisfaction with the method of supervision.

A chi square test produced significant differences between the two groups on all three variables; efficiency - 6.48, effectiveness - 7.06, and satisfaction - 7.71 (P .05 ≥ 5.99).

The null hypothesis was rejected.

**Ability to interact with consultant**

A five-point scale was used by teachers to rate their ability to talk and/or listen to five elements of verbal interaction: (1) information, (2) clarification, (3) opinions, (4) suggestions, and (5) directions or regulations. Experienced teachers had no difficulties interacting verbally with the state consultant and ranked "most of the time" or "always" as their response to all items. The scores of inexperienced teachers were lower and more evenly distributed among "usually," "most of the time," and "always."

The following null hypothesis was tested:

There is no significant difference in the post-test scores of experienced and inexperienced teachers relative to their ability to interact verbally with the state supervisor.

A chi square test was applied to the scores resulting in a computation of 69.9 (P .05 ≥ 5.99) which is significant at the
The null hypothesis was rejected.

A Spearman Rank Correlation Coefficient was applied to determine if a relationship existed between the amount of interaction teachers had with the consultant and their ability to interact. It was impossible to analyze the scores statistically due to the large number of tied scores. However, a review of the data reveals that there was a favorable relationship between the scores of experienced teachers. Inexperienced teachers reported that only an average amount of clarification and directions had been exchanged. The latter group found it easier to assume a passive role than an active role during the interaction process.

**Perceived growth and/or improvement**

The mean scores of experienced teachers for perceived growth and/or improvement was 1.447 and inexperienced teachers rated this area slightly better at 1.253 (favorable). Zero indicates "outstanding growth and/or improvement." Scores for perceived growth were lower than scores on satisfactions with help and method.

**Apprehension experienced**

Early involvements created the greatest apprehension for both groups but this slowly declined as the study progressed. Experienced teachers felt extremely apprehensive during the first recorded class session and evaluation (50 percent) and this was reduced to almost no apprehension by the time the study was completed. Inexperienced
teachers felt the greatest apprehension when they received the letter informing them of being selected as a participant in the study and during the first telephone conference. Slight apprehension remained with this group throughout the study.

In conclusion, it can be stated that the audiotape-telephone method is an acceptable, efficient, effective and satisfying approach to state-level supervision. The home economics supervisor (investigator) will continue to use the method in conjunction with face-to-face school contacts and recommend it to other professionals in the department of education.

**Implications**

In the pursuit of this study, the writer became aware of the need for additional research and investigation designed to enhance the supervisory act at all educational levels. This limited study provides the foundation upon which to consider several implications.

**Implications for state supervision**

1. Various types of media which provide opportunity for continuous contact with teachers at the local level need to be considered by state supervisory personnel as tools by which encouragement, support and information can be delivered effectively and efficiently.

2. State supervisors might profitably re-examine their priorities and explore a variety of ways for assisting teachers and other local personnel, such as face-to-face school contacts, the
audiotape-telephone approach, and video tape techniques. A determinations of how, when, where, and with whom each method can best be used might re-vitalize the supervisory act.

3. For improvement of learning-teaching in general, as well as provision of adequate supervision in schools, the state education agency may profitably provide adequate facilities, equipment, and funding to support and encourage experimentation with new supervisory techniques and should make provisions for implementing successful approaches.

4. Enchancement of the learning-teaching process might be realized if supervisory personnel and teachers cooperatively developed effective evaluation procedures which focus on student learning and/or the unique concerns of the individual teacher.

5. There is a need to involve teachers in any experimental effort or change if they are expected to accept and implement the results at the local level. Close direct personal contact with local administrators might help solicit the cooperation necessary for ultimate implementation.

6. It would be desirable for state supervisors and teacher educators to develop inservice and preservice experiences cooperatively which are designed to (1) familiarize teachers with the purposes and use of various supervisory media, (2) enhance the perceptions of a teacher's role, and (3) develop a healthy perception of the role of a supervisor as a "stimulator" for improvement.
Implications for local personnel

1. The model presented in this study could be adopted at the local level by cooperating teachers and administrators in order to secure factual information upon which to make decisions about improvement and change.

2. Local school administrators might consider installation of telephones exclusively for the teacher's use in contacting supervisory personnel in all areas of teaching. Inclusion of the cost of telephone conferences in the school budget and a quiet, private area devoid of interruptions would be desirable elements for encouraging these contacts.

3. Local administrators need to provide incentive and encouragement for experimentation on the local level. Teachers in this study found that when administrative approval and interest were offered, they were influenced to participate and tended to be most satisfied with their involvement.

4. Continued use of audiotape recording equipment in the classroom will promote acceptance of the device as part of the normal learning-teaching environment and enhance the ultimate objectives of education.

5. Teachers need to evaluate the total teaching-learning environment and identify those factors which enhance and deter learning as a basis for improving their performance.
Implications for further research

1. The foundation for a controlled experimental investigation has been established by this feasibility study. In further research consideration might be given to the following approaches:

   a. Explore the effectiveness of audiotape-telephone supervision when the supervisor is not acquainted with teachers and/or local facilities.

   b. Apply the audiotape-telephone method of supervision in other instructional areas.

   c. Compare audiotape-telephone state supervision with face-to-face school contacts and video-tape techniques.

   d. Focus attention on the individual concerns of teachers.

   e. Develop procedures which focus on growth in the learning process for students.

   f. Design cooperative studies involving several state departments.

2. It might be desirable to employ an impartial investigator when undertaking further experimentation in state supervision, thus assuring objectivity in evaluation.

3. There is a need to refine and test experimentally the instruments developed for this study.
APPENDIX A

CORRESPONDENCE

1. Introductory Letter to Teachers and Administrators
2. Notification to Teachers of Selection for Study
3. Notification to Administrators of Teachers Selected
4. Letter to Teachers not Selected to Encourage Informal Participation
5. Notification to Teachers of Post-Evaluative Session
6. Invitation to Administrators to Attend Post-Evaluative Session
7. Copy of Letter from Dr. Charles Wood
TO: Home Economics Teachers
FROM: Lila C. Murphy, Consultant
Home Economics Education
Telephone 271-2724
SUBJECT: A New Approach to Supervision of Local Home Economics Teachers.

When I returned to New Hampshire from graduate school late in October, 1968, I sent each of you a letter indicating that it would be impossible for me to carry out many of the activities undertaken in the past. By now it is obvious that I have not been able to see each of you individually. Although I want to become acquainted with each of you, for some time I have questioned the value of supervisory school visits. It seems that so much time is spent in travel and discussing regulatory activities that we seldom have enough time to concentrate on your personal concerns, or ways to improve your teaching-learning situation. And this is important, isn't it?

When an outsider visits the classroom it is almost impossible to have a "normal" situation and often the contact comes at an inconvenient time for the teacher. You are so many to my "one" and I get to see you only once every two or three years. Is there a better way? Is there a way to help you more often? Would another approach be more beneficial?

These and other questions prompted me to explore possible alternatives and I finally decided to make a systematic study in order to find some answers. I am able to combine this concern with the research to complete the requirements of my doctoral program. I feel a responsibility to develop a study which will be useful and make a contribution to Home Economics Education in New Hampshire.

Some of you will be asked to participate formally, and all of you to carry out some experimentation informally on your own. The basic idea is to use the tape recorder and the telephone (as opposed to a supervisory visit with each teacher in each school) to help you, the teacher, to analyze your own teaching performance. I will not visit each of you individually in your school. You will record a specific class session on tape, evaluate the results and send the tape to me. I will also analyze the session and then we will discuss the results on the telephone. Hopefully, by working together we will be able to discover new techniques, new approaches, and try out some new ideas. Those involved in the study will meet shortly for an intensive review of the plan.
Please understand that this does not mean I will never visit any of you in your schools again. It does mean that together we may discover another way for me to contact teachers and help them with specific concerns. Eventually, I should be able to spend more time working toward the promotion and expansion of new programs, and providing you with extra help in vital areas of concern. Here again, it will be possible to identify some mutual concerns of all teachers which can best be resolved by group experiences rather than the individual school visit.

The purpose of this letter is to inform you of the project, stimulate your interest, and encourage involvement. More information will be forthcoming shortly. The total plan will be explained and directions for participation made available. A report of the results will also be made available to you all at the conclusion of the experiment.

Personally, I am real excited about the idea. I feel confident that we may discover a new approach to state-level supervision which will prove beneficial to the teacher—and ultimately to the student. And isn't that the real purpose of supervision and teaching?

Wouldn't it be great to say New Hampshire Home Economics teachers were instrumental in changing the whole supervisory concept?

As a friend and fellow professional, I ask for your help. The success of the experiment depends on you and me. Please look for subsequent mailing containing further information. Until then, think about the idea and if you have any suggestions or questions, let me know.

cc: Superintendents of Schools and Principals

LCM: mf
VT#223
Dear

Recently you received a letter from me explaining a research study I plan to undertake in the weeks ahead. The study is designed to investigate a new approach to supervision of local teachers and will involve the use of an audiotape recorder and the telephone.

Your name was randomly selected as one of the twenty-four participants for the study. Twelve of the teachers selected are inexperienced teachers who are just beginning their teaching careers and twelve are teachers with at least five years of teaching experience. Let me explain the details briefly so you can evaluate the value of your participation in this pioneer effort.

The study will begin with a preliminary conference of all twenty-four teachers on Thursday, April 10, 1969. We will meet for a half day session in Concord to discuss the study, set-up telephone schedules, learn to operate equipment, investigate teaching techniques, etc. Most important you will become better acquainted with each other and we will resolve your questions and/or doubts about the program.

The project is not very complicated. We will focus attention on trying to improve verbal interaction in the classroom or in simple terms work toward improving student participation in classroom discussions. Essentially the following steps will be taken:

1. Each teacher will select a class to work with throughout the study. She will make certain that the class selected will be involved in some type of discussion for at least 30 minutes, 2 or 3 times each week. She will record one 30-minute class session.

2. Later at her leisure, the teacher will listen to the tape of her class and evaluate the results according to a predetermined criteria which has been prepared for her.

3. Afterwards the tape will be mailed to me and I will also evaluate it.

4. I will then telephone the teacher and together we will evaluate the class session and discuss possible ways to improve. The call will be made at the teacher's convenience according to a prearranged schedule. I will send the teacher additional information, materials, and references, depending on the needs of each individual case.
The above procedure will be repeated three times only. You will incorporate the ideas discussed and hope for improvement on the next recording. Actual participation will cover about six weeks. During this period you will be expected to:

1. Attend a preliminary conference (1/2 day).
2. Record three, 30-minute class sessions and evaluate each.
3. Talk to me three times on the telephone. (However, teachers may call me anytime they desire.)
4. Attend a post-session conference (1/2 day).

The post-session conference will be held on June 3, 1969, which will allow me a little time to get organized after the study is finished. The purpose of this meeting will be to evaluate the entire experiment.

Much to my delight, I was able to obtain a federal grant for the study. Therefore you will receive some financial compensation for your help. We will pay all expenses including travel, meals, mailing costs, and in addition each teacher will be given an honorarium.

I have contacted your Principal and Superintendent requesting permission for you to be released from school for a total of one day (two half-day sessions). I suggest that you talk with both of them before returning the attached form.

Since this is a research study it is imperative that everyone involved complete the project. Naturally, we cannot predict what will happen in the weeks ahead but if you know of anything which would prevent your full participation, please let me know immediately.

I hope you feel some of the excitement that I do which comes from trying something new. I encourage you to accept this challenge as an opportunity not only to contribute to the field of research but to the improvement of the teaching-learning process. Without doubt, the student and you the teacher will benefit most in the end.

Please complete the attached form and return to me immediately. I must have your answer no later than Thursday, April 3, 1969. Our first preliminary conference will be held on Thursday, April 10, at 1:30 p.m. at the New Hampshire Technical Institute, Concord. Take Exit 15 off Interstate 95. Dinner will follow (on us). Please bring a copy of your teaching schedule which includes the exact time of each period. Let me thank you in advance for your help which is badly needed.

Sincerely yours,
(Miss) Lila C. Murphy, Consultant
Home Economics Education

Enclosure
Date ____________________, 1969

Name __________________________________________________________________

School __________________________ Grades Teaching ______________

Home Address __________________ Home Tel. No. __________________

1. I (will/will not) be able to participate in the Pilot Study to Determine the Feasibility of an Audiotape-Telephone Approach to Supervision of Home Economics Teachers.

2. There (is/is not) a tape recorder at my school which will be available for my use as needed throughout the study.

3. Please indicate the location of telephones in the school (other than pay phones) which you could have access to for three extended conversations and the degree of privacy.

   (Location Privacy
   Examples ( Main Office Public-no privacy
           ( Guidance Department Private office

   a. __________________________ __________________________
   b. __________________________ __________________________
   c. __________________________ __________________________
   d. __________________________ __________________________
   e. __________________________ __________________________

4. Would it be possible to call you at home if necessary-

   (Check One)
   YES NO

   a. in the late afternoon, after school? _____ _____
   b. in the evening? _____ _____
   c. on the weekend? _____ _____
   d. Other (explain) _____ _____
TO: Selected Superintendents of Schools and Principals
FROM: Miss Lila C. Murphy, Consultant
Home Economics Education
SUBJECT: A Pilot Study Using A New Approach to Supervision of Local Home Economics Teachers.

Recently you received a copy of a letter sent to home economics teachers in the State relative to a research study I plan to undertake in the weeks ahead. The study is designed to test a new method of state supervision using the audiotape recorder and the regular telephone to assist teachers in the improvement of the teaching-learning process. The results of this study should have great implications for supervision at all levels. However, the main purpose is to stimulate teachers to evaluate their own performance.

Almost nothing has been done throughout the years to improve the supervisory process. I am convinced that we in education do not have the time, energy, money, or personnel to really help teachers via the long used supervisory visit method involving observations and conferences with each teacher. Therefore, until the resources are available we must explore new approaches to supervision.

To insure a valid study it was necessary to randomly select twenty-four teachers for participation. A general summary of the study is given in the attached letter which is being sent to all teachers involved. Please note that a teacher(s) on your staff is (are) among those selected. I am sure that you will consider this a fine educational opportunity for a member of your staff and will not only encourage but request participation, if at all possible.

As you read the attached letter you will note that we plan two one-half day meetings with the teachers involved. This will necessitate early dismissal from school on April 21 and June 3, 1969. We in the Department of Education do not often make such a request but in this case we feel that the ultimate value to the teacher and students will be considerable.

As stated previously, your encouragement will go a long way toward providing the support the teacher(s) needs. It is human to want recognition and perhaps when the study is finished you can inform the entire staff of her (their) involvement in this "first-in the nation" pioneer effort. Results of the study will be made available for your use.

Please feel free to contact me for additional information.
Thank you for your assistance.

Teacher(s) Selected
April 8, 1969

Dear Home Economists:

Recently you received a letter from me explaining a research study I plan to undertake in the weeks ahead. The study is designed to investigate a new approach to supervision of local teachers and will involve the use of a tape recorder and telephone.

Although your name was not randomly selected as one of the twenty-four participants to be involved formally in the study, please do not hesitate to experiment informally.

The primary objective of this study is to focus attention upon student involvement in classroom discussions. To do this, select a class to work with throughout your own experiment. Be sure the class is involved in some form of discussion for 30 minutes, two or three times a week. Tape record the class session and evaluate it at your leisure utilizing the enclosed predetermined criteria. Continue taping the same class for a period of weeks to see if there is improvement in teacher and/or student performance. If you have any problems or questions, do not hesitate to contact me.

Please understand that this does not mean I will never visit you in your school again. It does mean that together we may discover another way for me to contact and help you with specific concerns. Eventually, I should be able to spend more time working toward the promotion and expansion of new programs and providing you with extra help in vital areas. Here again, it should be possible to identify some mutual concerns of all teachers which can best be resolved by group experiences rather than the individual school visit.

I hope you feel some of the excitement that I do which comes from trying something new and will accept the challenge of this self-evaluative study. We in education know that evaluation provides us with the information for making improvements in the teaching-learning process. Good luck!

Sincerely yours,

(Miss) Lila C. Murphy, Consultant
Home Economics Education

LCM; mf
May 22, 1969

Dear

The final evaluation in conclusion of our Research Study on Supervision is rapidly drawing near. I can't tell you how much I appreciate your active participation, interest, and enthusiasm. I only hope you found the challenge to be as rewarding as I did.

As mentioned previously, the two post-evaluative group meetings will be held at the New Hampshire Technical Institute, Concord, on June 3 and June 10, beginning at 1:30 p.m. I hope that most of the participants in the first group will be able to meet on June 3. However, if you have a conflict, you may attend on the 10th. Also, the second group participants who finish the entire study including the third telephone conference with me may attend on June 3.

As you might guess, I would like to keep the attendance at each meeting fairly even in order to give you an opportunity to participate fully in the discussions. Please bring with you the folder, evaluation forms, notes, ideas, and your criticism. I sincerely beg you to be as objective and honest as possible at the evaluative session. Remember, it doesn't matter if the results are positive or negative, only that you share your true feeling.

Enclosed you will find a card indicating your preference on attending. Please complete and return to me immediately.

You are cordially invited to dinner after our meeting as my guest.

I really look forward to sharing the experiences of the last few weeks with you.

See you soon.

Sincerely yours,

(Miss) Lila C. Murphy, Consultant
Home Economics Education

LCM:mf
Enc.
May 23, 1969

Dear

Sometime ago, you received a letter from me explaining a Research Study designed to investigate a new approach to supervision of local teachers. Thank you for the cooperation, encouragement, and support you gave to the Home Economics teacher in your school who participated.

The post-evaluative group meetings for the study will be held on June 3 and 10 at the New Hampshire Technical Institute in Concord at 1:30 p.m. If either of these dates are convenient and you can find time in your busy schedule, we would like to have you join us for part or all of either session. The tentative schedule is as follows:

1:30 - 3:30 p.m. - Completion of the testing instruments by participants.

3:30 - 5:15 - Open discussion and evaluation by participants.

5:30 - Dinner "Dutch Treat."

I feel strongly that this study has real implications for teachers and supervisors regardless of their major area of concentration. In addition, I can visualize administrators making use of the results. The discussions should provide some important insights into more effective evaluation of the teaching-learning process. A copy of the study will also be made available later.

Please complete the enclosed card only if you decide to attend and return it immediately.

Again, thank you for your cooperation.

Sincerely yours,

(Miss) Lila C. Murphy, Consultant
Home Economics Education

LCM: mf
Enc.
April 18, 1969

Miss Lila Murphy, Consultant
Home Ec. Education
State Department of Education
Concord, New Hampshire 03301

Dear Miss Murphy:

Enclosed is the teacher satisfaction scale that you requested.

If you decide to use them, I would appreciate your giving me credit in your reference. If you desire I will send you a copy of the factorial analysis of Form B and C. I would also appreciate a copy of your research.

Sincerely yours,

Charles L. Wood, Ph.D.
College of Education
The University of Akron
Akron, Ohio 44304

COPY OF LETTER RECEIVED
APPENDIX B

DATA ON PARTICIPANTS

1. Teachers Participating in Study
2. Personal and Professional Data on Teachers
3. Data on Students and Classes Involved in Study
TEACHERS PARTICIPATING IN STUDY

First Group
Mrs. Marion Proctor, Littleton High School
Mrs. Marjorie Collins, Inter-Lakes High School, Meredith
Mrs. Phebe Walker, Lebanon High School
Mrs. Betty Lou Archanbault, Merrimack High School
Mrs. Mary Lou Collemer, Inter-Lakes High School, Meredith
Miss Audrey Pinard, Hillsboro-Deering High School
Mrs. Nancy Koester, Memorial Junior High School, Laconia
Mrs. Mary Beth Dickey, Woodsville High School
Mrs. Katherine Norton, Winchester High School
Mrs. Brenda Clapp, Hood Memorial Junior High School, Derry
Mrs. Helen Horne, Southside Junior High School, Manchester

Second Group
Mrs. Priscilla Ayer, Nute High School, Milton
Mrs. Mary K. Berry, Portsmouth High School
Mrs. Irene H. Copenhaver, White Mountain Regional High School, Whitefield
Mrs. Helen Dwire, Wilton High School
Mrs. Priscilla J. Estey, Epping High School
Mrs. Janice Hawkins, Henniker High School
Mrs. Carol W. Herting, Linwood High School, Lincoln
Miss Marcelle T. Montminy, Memorial High School, Manchester
Mrs. Marion Melanson, Timberlane Regional High School, Plaistow
Mrs. Ruth Harris, Whitefield Elementary School
Mrs. Glenwyn Stewart, Lebanon Junior High School
Mrs. Kathleen Shea Thorell, Raymond High School
Miss Catherine Whall, Plymouth High School
Mrs. Ruth Kimball, Merrimack Valley Regional High School, Penacook
Mrs. Norine Sipe, Goffstown High School
Mrs. Genevieve G. Meyer, Woodbury School, Salem
### PERSONAL AND PROFESSIONAL DATA ON TEACHERS
(N= 25)

<table>
<thead>
<tr>
<th>Age</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 30 years</td>
<td>9</td>
</tr>
<tr>
<td>31-40 years</td>
<td>3</td>
</tr>
<tr>
<td>41-50 years</td>
<td>9</td>
</tr>
<tr>
<td>51-60 years</td>
<td>3</td>
</tr>
<tr>
<td>61+ years</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Marital status</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>3</td>
</tr>
<tr>
<td>Married</td>
<td>20</td>
</tr>
<tr>
<td>Divorced</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Undergraduate education</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-state</td>
<td>20</td>
</tr>
<tr>
<td>Out-of-state</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Highest degree received</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baccalaureate</td>
<td>22</td>
</tr>
<tr>
<td>Masters</td>
<td>2</td>
</tr>
<tr>
<td>None</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Teaching experience</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>First year teacher</td>
<td>8</td>
</tr>
<tr>
<td>1-4 years</td>
<td>1</td>
</tr>
<tr>
<td>5-10 years</td>
<td>2</td>
</tr>
<tr>
<td>11-20 years</td>
<td>1</td>
</tr>
<tr>
<td>21-40 years</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Years in present position</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1</td>
<td>9</td>
</tr>
<tr>
<td>2-10</td>
<td>9</td>
</tr>
<tr>
<td>11-20</td>
<td>5</td>
</tr>
<tr>
<td>21-30</td>
<td>1</td>
</tr>
<tr>
<td>30-40</td>
<td>1</td>
</tr>
</tbody>
</table>

### Other information
1. Two teachers are presently completing work on a masters degree.
2. Two teachers with over fifteen years of experience have no credits beyond the baccalaureate degree.
3. One teacher without a degree has twenty-one credits beyond a third year life certificate.
## DATA ON STUDENTS AND CLASSES INVOLVED IN STUDY

<table>
<thead>
<tr>
<th>Grade level of students in study (N=25)</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior high school level</td>
<td>15</td>
</tr>
<tr>
<td>Junior high school level</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subject areas under discussion in classes involved (three classes per teacher, (N=75))</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clothing and Textiles</td>
<td>11</td>
</tr>
<tr>
<td>Consumer Education</td>
<td>2</td>
</tr>
<tr>
<td>Family Life and Child Development</td>
<td>23</td>
</tr>
<tr>
<td>Foods and Nutrition</td>
<td>31</td>
</tr>
<tr>
<td>Housing and Home Furnishings</td>
<td>5</td>
</tr>
<tr>
<td>Occupational Training</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Learning rate of students in classes (N=25)</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast</td>
<td>4</td>
</tr>
<tr>
<td>Average</td>
<td>6</td>
</tr>
<tr>
<td>Slow</td>
<td>7</td>
</tr>
<tr>
<td>Mixed</td>
<td>7</td>
</tr>
<tr>
<td>Special (retarded)</td>
<td>1</td>
</tr>
</tbody>
</table>

| Average class size (N=25)                                                             | 13.1   |
| Average school enrollment (N=25)                                                      | 517.88 |
APPENDIX C

FORMS USED TO GATHER DATA

1. Calendar of Events-Sample for One Month
2. Record of Events
3. Time Record
4. Telephone Conference Notes
5. Audiotape Evaluation Form
6. Teacher's Critique of Audiotaped Class Sessions
# Calendar of Events—Sample for One Month

**April**

<table>
<thead>
<tr>
<th>MONDAY</th>
<th>TUESDAY</th>
<th>WEDNESDAY</th>
<th>THURSDAY</th>
<th>FRIDAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><em>Group I Preliminary Conference Concord 1:00 p.m.</em></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td><em>Group II Preliminary Group Conference 1 p.m.</em></td>
<td><em>Mail first tape to Consultant (I)</em></td>
<td><em>Mail first tape to Consultant (II)</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>29</td>
<td>30</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><em>Group I Make Second Tape and Evaluate</em></td>
<td><em>Consultant Review first tape</em></td>
<td><em>Take first telephone contacts (II)</em></td>
<td><em>Mail second tape to Consultant (I)</em></td>
<td></td>
</tr>
</tbody>
</table>
RECORD OF EVENTS

Teacher ____________________________________________

School _________________________________________________________________

Experienced _________________ Inexperienced _________________

<table>
<thead>
<tr>
<th>Tape Recordings</th>
<th>Date</th>
<th>Initial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tape 1. Received</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Returned</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tape 2. Received</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Returned</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tape 3. Received</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Returned</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Telephone Conversations</th>
<th>Date</th>
<th>Length in Minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact I.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact II.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact III.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
NAME ____________________________________________

TIME RECORD

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning Session in Concord Traveling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conference</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning to use the Recorder</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recording in Class</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluation of Tape</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telephone Conference</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preparation for Class</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>After Telephone Session</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final Session in Concord</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traveling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conference</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOTAL IN MINUTES 146

INSTRUCTIONS: 1. Personal time refers only to that time above and beyond your regular school day when you could be doing something else.
               2. School time means all the time you are required to be in school including lunch periods, free periods, before and after school, class time, etc.
TELEPHONE CONFERENCE NOTES

1. Reaction of teacher to tape recorder in room.

2. Reaction of students to tape recorder in room.

3. Any difficulties encountered.

4. Reaction of teacher upon listening to recording.

5. Discussion of tape evaluations.

6. Information or materials requested.
### AUDIOTAPE EVALUATION
*(Teacher and Consultant)*

<table>
<thead>
<tr>
<th>Name</th>
<th>__________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Students in Class</td>
<td>__________________________</td>
</tr>
<tr>
<td>No. of Students Participating</td>
<td>__________________________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Teaching Strategy</th>
<th>Classification of Communications</th>
<th>Check Each Incident</th>
<th>Total No. of Incidents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I Sanctions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rewards (Positive)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Punishment (Negative)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Encourages student thinking and self expression</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>II Information</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Asks questions requiring specific answers</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Delivers information and conclusions</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>III Procedures</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shares decisions and plans with students</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Imposes plans, standards and procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>IV Maintenance</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provides for transition</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Makes small talk</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Takes care of routine matters</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TEACHERS CRITIQUE OF AUDIO TAPED CLASS SESSIONS*

<table>
<thead>
<tr>
<th>NAME</th>
<th>FIRST</th>
<th>SECOND</th>
<th>THIRD</th>
</tr>
</thead>
</table>

A. INSTRUCTIONS: In the space provided at the right place an X under the word which best indicates your rating of the items listed on the left.

<table>
<thead>
<tr>
<th></th>
<th>Superior</th>
<th>Good</th>
<th>Satisfactory</th>
<th>Fair</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Organization of lesson.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Achievement of goals and lesson objectives.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Student interest.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Discipline and general student behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Adherence to subject(s) under discussion.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Amount of teacher talk.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Quality of teacher talk.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Amount of student talk.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Quality of student talk.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Physical setting—room, light, ventilation, etc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Over-all evaluation of session.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Others (list below)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. non-verbal reinforcement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Information to be used by the teacher for reference when discussing the taped session with the Consultant on the telephone.
B. Answer each of the following briefly:

1. List the major strengths in the class sessions.

2. List the major weaknesses in the class session.

3. List specific areas where improvement is needed.

C. List any other areas of concern you need to discuss with the consultant over the telephone.
APPENDIX D

AGENDAS FOR GROUP CONFERENCES
AGENDAS FOR GROUP CONFERENCES

Preliminary Conference

1:30 - 2:30 p.m.  Welcome and Introductions
                  Purpose and outline of study
                  Review agenda, mechanics of study
                  and packet of materials
                  Collect data needed

2:30 - 4:15

Presentation and discussion period
           (handouts)
           Improving basic teaching techniques
           Development of effective classroom
discussions (transparencies)

3:15 - 3:35  Coffee Break

4:15 - 5:30  "Oral communication of Teachers"
              Evaluate sample tapes

5:30  Adjourn to dinner

Post-Evaluative Conference

1:30 - 2:00 p.m.  Welcome
                  Collect data and complete
                  administrative details

2:00 - 2:30  Listen to tape of classroom interaction
                  and selected telephone conferences

2:30 - 3:30  Administer instruments

3:30 - 4:00  Coffee Break

4:00 - 5:00  Oral discussion and evaluation
                  (record on tape)

5:00 - 5:30  Presentation on learning and
evaluation (handouts)

5:30  Adjourn to dinner
APPENDIX E

INSTRUMENTS

1. Teacher Satisfaction Scale: Help Received from State Consultant
2. Teacher Satisfaction Scale: Method of State Supervision
3. Teacher Perception Scale: Improvement and/or Growth in the Learning-Teaching Process
4. Elements of Interaction Between Teacher and State Consultant
5. General Evaluation Report on Audiotape-Telephone State Supervision
TEACHER SATISFACTION SCALE:
HELP RECEIVED FROM STATE CONSULTANT

Instructions:

The purpose of this scale is to determine how Satisfied you feel about the Help you received from the State Consultant during this study. Help refers to the broad category of assistance given, or not given, by the State Consultant including encouragement, support, suggestions, ideas, materials, information, etc.

Below you will find a rating scale, each has five spaces which corresponds to the five spaces on your answer sheet. If your feelings are related to the word on the left, fill in the space under A on your answer sheet as follows:

Negative [ ] B C D E Positive

If your feelings are related to the word at the right, mark the space under E on your answer sheet.

Negative [ ] B C D E Positive

Degrees of feeling can be placed along the scale as desired with a neutral feeling placed in the central position. Mark every item. Do not puzzle over individual items because your first impressions are usually most desirable.
The help I received from the State Consultant was:

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Negative</td>
<td>Good</td>
<td>Poor</td>
<td>Excellent</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>2</td>
<td>Meaningless</td>
<td>Excellent</td>
<td>Good</td>
<td>Poor</td>
<td>Excellent</td>
</tr>
<tr>
<td>3</td>
<td>Insufficient</td>
<td>Good</td>
<td>Excellent</td>
<td>Poor</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>4</td>
<td>Irrelevant</td>
<td>Good</td>
<td>Excellent</td>
<td>Poor</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>5</td>
<td>Hazy</td>
<td>Good</td>
<td>Excellent</td>
<td>Poor</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>6</td>
<td>Imposed</td>
<td>Good</td>
<td>Excellent</td>
<td>Poor</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>7</td>
<td>Inappropriate</td>
<td>Good</td>
<td>Excellent</td>
<td>Poor</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>8</td>
<td>General</td>
<td>Good</td>
<td>Excellent</td>
<td>Poor</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>9</td>
<td>Poorly Timed</td>
<td>Good</td>
<td>Excellent</td>
<td>Poor</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>10</td>
<td>Unnecessary</td>
<td>Good</td>
<td>Excellent</td>
<td>Poor</td>
<td>Satisfactory</td>
</tr>
</tbody>
</table>
TEACHER SATISFACTION SCALE:
METHOD OF STATE SUPERVISION

Instructions:

The purpose of this scale is to determine the extent to which you felt the METHOD of state supervision used in this study was efficient, effective, and satisfying.

a. **Efficient** - means the method was convenient, practical, and manageable especially in regard to the time and energy required.

b. **Effective** - means the method was influential, useful, and a contributing factor in achieving results desired in the learning-teaching process.

c. **Satisfying** - means you were comfortable and contented with the method and found it adequate, unobjectionable and pleasing.

Each of the following statements are to be rated on these three factors. Mark the space on your answer sheet under the letter which best indicates your feeling. Mark every item.
## Mechanics of the Method

**Time of year for the study:**

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.</td>
<td>Inefficient</td>
<td></td>
<td></td>
<td></td>
<td>Efficient</td>
</tr>
<tr>
<td>12.</td>
<td>Ineffective</td>
<td></td>
<td></td>
<td></td>
<td>Effective</td>
</tr>
<tr>
<td>13.</td>
<td>Not Satisfying</td>
<td></td>
<td></td>
<td></td>
<td>Satisfying</td>
</tr>
</tbody>
</table>

**Length of study to achieve meaningful results:**

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.</td>
<td>Inefficient</td>
<td></td>
<td></td>
<td></td>
<td>Efficient</td>
</tr>
<tr>
<td>15.</td>
<td>Ineffective</td>
<td></td>
<td></td>
<td></td>
<td>Effective</td>
</tr>
<tr>
<td>16.</td>
<td>Not Satisfying</td>
<td></td>
<td></td>
<td></td>
<td>Satisfying</td>
</tr>
</tbody>
</table>

**Orientation to the study:**

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.</td>
<td>Inefficient</td>
<td></td>
<td></td>
<td></td>
<td>Efficient</td>
</tr>
<tr>
<td>18.</td>
<td>Ineffective</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>19.</td>
<td>Not Satisfying</td>
<td></td>
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</table>

**Use of the tape recorder in the learning-teaching process:**

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<tbody>
<tr>
<td>20.</td>
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</tr>
<tr>
<td>21.</td>
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<td>22.</td>
<td>Not Satisfying</td>
<td></td>
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</table>

**Quality of the tape recordings (loud enough, clear, etc.)**

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<td>23.</td>
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<tr>
<td>24.</td>
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<tr>
<td>25.</td>
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**Length of recorded sessions to achieve desired results in the learning-teaching process:**

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<tr>
<td>28.</td>
<td>Not Satisfying</td>
<td></td>
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<td></td>
<td>Satisfying</td>
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</table>
Availability and use of the telephone:

29. Inefficient
   A B C D E
   Efficient

30. Ineffective
   A B C D E
   Effective

31. Not Satisfying
   A B C D E
   Satisfying

Personal effort required:

32. Inefficient
   A B C D E
   Efficient

33. Ineffective
   A B C D E
   Effective

34. Not Satisfying
   A B C D E
   Satisfying

Method as an Evaluation Technique

In identifying teacher concerns and needs:

35. Inefficient
   A B C D E
   Efficient

36. Ineffective
   A B C D E
   Effective

37. Not Satisfying
   A B C D E
   Satisfying

In identifying student concerns and needs:

38. Inefficient
   A B C D E
   Efficient

39. Ineffective
   A B C D E
   Effective

40. Not Satisfying
   A B C D E
   Satisfying

In identifying the positive aspects of the learning-teaching process:

41. Inefficient
   A B C D E
   Efficient

42. Ineffective
   A B C D E
   Effective

43. Not Satisfying
   A B C D E
   Satisfying

In seeking and finding solutions to learning-teaching problems:

44. Inefficient
   A B C D E
   Efficient

45. Ineffective
   A B C D E
   Effective

46. Not Satisfying
   A B C D E
   Satisfying
In discussing and finding answers to other personal and educational issues:

<table>
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<tr>
<th></th>
<th>A</th>
<th>B</th>
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<td>48. Ineffective</td>
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<td>Effective</td>
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<tr>
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In stimulating teacher self-evaluation:

<table>
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<tr>
<td>51. Ineffective</td>
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<tr>
<td>52. Not Satisfying</td>
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In stimulating student self-evaluation:

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<tr>
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<tr>
<td>54. Ineffective</td>
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<td>55. Not Satisfying</td>
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In stimulating teacher self-improvement:

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<tr>
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<td>Efficient</td>
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<td>57. Ineffective</td>
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<td>Effective</td>
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<tr>
<td>58. Not Satisfying</td>
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In stimulating student self-improvement:

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<tr>
<td>60. Ineffective</td>
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<td></td>
<td>Effective</td>
</tr>
<tr>
<td>61. Not Satisfying</td>
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In developing objectivity in evaluation:

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<tr>
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<td>63. Ineffective</td>
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<td>64. Not Satisfying</td>
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In promoting comprehensive evaluation:

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<tr>
<td>66. Ineffective</td>
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<td>67. Not Satisfying</td>
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In providing a normal, natural climate for evaluation:

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<tbody>
<tr>
<td>68. Inefficient</td>
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<td></td>
<td>Efficient</td>
</tr>
<tr>
<td>69. Ineffective</td>
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<td>Effective</td>
</tr>
<tr>
<td>70. Not Satisfying</td>
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<td></td>
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<td>Satisfying</td>
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</table>
TEACHERS' PERCEPTION SCALE:
IMPROVEMENT AND/OR GROWTH IN THE
LEARNING-TEACHING PROCESS

Instructions:

During the past few weeks you have been evaluating your own classroom situation. Rate the amount of improvement or growth you feel took place during this study in each of the areas listed below. Select one of the following answers for each statement and mark the appropriate space on your answer sheet:

A. No growth or improvement.
B. A little growth and improvement.
C. Fair growth and improvement.
D. Good growth and improvement.
E. Outstanding growth and improvement.

The Teaching Process

71. Organization and planning of lesson
72. Achievement of lesson objectives
73. Evaluation of lessons
74. Teaching techniques and methods
75. Classroom climate
76. Learning experiences and activities
77. Quality of teacher-talk
78. Appropriate amount of teacher-talk for lessons taught
79. Self-evaluation and analysis
80. Identification of student-learning problems
The Learning Process

81. Student motivation and interest
82. Quality of student talk
83. Amount of student involvement
84. Classroom behavior
85. Critical thinking
86. Self-evaluation
87. Ability to generalize and draw conclusions
88. Attitude
ELEMENT OF INTERACTION BETWEEN
TEACHER AND STATE CONSULTANT

General Introductions:

During this study the interaction which has taken place between you and the State Consultant is classified as Verbal. Two major things happened, you both had an opportunity to (1) talk, and (2) to listen.

Talking and listening have meaning, create feelings, and evoke reactions. In order to obtain your reactions we will explore how you felt about your ability to listen, ask for, offer, accept, and reject the following five major elements in verbal interaction during the conversations you had with your State Consultant:

1. Information
2. Clarification
3. Opinions
4. Suggestions
5. Directions and/or Regulations

Instructions—Part I:

Decide on the degree which you personally feel best answers each statement. Answer every one and attempt to record "first impressions." Remember, consider each statement with reference to your relationship with the State Consultant during this study only.
Select one of the following answers for each statement:*

A. Almost never
B. Sometimes
C. Usually
D. Most of the time
E. Always

Information (specific facts, figures, relationships, and ideas).

89. I was able to listen to the Consultant offer information without feeling that she was attacking my personal worth or limiting my freedom to make decisions.

90. I was able to ask for information without feeling that the Consultant was attacking my personal worth or limiting my freedom to make decisions.

91. I was able to offer or give information without feeling that the Consultant was attacking my personal worth or limiting my freedom to make decisions.

92. I was able to accept information without feeling that the Consultant was attacking my personal worth or limiting my freedom to make decisions.

93. I was able to reject information without feeling that the Consultant was attacking my personal worth or limiting my freedom to make decisions.

Clarification (reflection, reasons, summarization, projection, background details, etc.)

94. I was able to listen to the Consultant offer clarification without feeling that she was attacking my personal worth or limiting my freedom to make decisions.

95. I was able to ask for clarification without feeling that the Consultant was attacking my personal worth or limiting my freedom to make decisions.

96. I was able to offer or give clarification without feeling that the Consultant was attacking my personal worth or limiting my freedom to make decisions.

97. I was able to accept clarification without feeling that the Consultant was attacking my personal worth or limiting my freedom to make decisions.

* The scale was repeated at the top of each page of Part I.
98. I was able to reject clarification without feeling that the Consultant was attacking my personal worth or limiting my freedom to make decisions.

Opinion (feelings, relationships, values, attitudes, etc.)

99. I was able to listen to the Consultant offer an opinion(s) not meant for action, without feeling that she was attacking my personal worth or limiting my freedom to make decisions.

100. I was able to ask for opinion not meant for action, without feeling that the Consultant was attacking my personal worth or limiting my freedom to make decisions.

101. I was able to offer or give an opinion not meant for action without feeling that the Consultant was attacking my personal worth or limiting my freedom to make decisions.

102. I was able to accept an opinion not meant for action without feeling that the Consultant was attacking my personal worth or limiting my freedom to make decisions.

103. I was able to reject an opinion not meant for action without feeling that the Consultant was attacking my personal worth or limiting my freedom to make decisions.

Suggestions (definite proposals, propositions, plans, methods, techniques, etc.)

104. I was able to listen to the Consultant offer suggestions for action without feeling condemnation or punishment if I did not follow through.

105. I was able to ask for suggestions for action without a feeling of condemnation or punishment if I did not follow through.

106. I was able to offer or give suggestions for action without a feeling of condemnation or punishment if I did not follow through.

107. I was able to accept suggestions for action without a feeling of condemnation or punishment if I did not follow through.

108. I was able to reject suggestions for action without a feeling of condemnation or punishment if I did not follow through.
**Direction and/or Regulation** (orders, sanctions, rules, regulations, demands, etc.)

109. I was able to listen to the Consultant give directions and regulations for action without a feeling of condemnation or punishment if I did not follow through.

110. I was able to ask for directions and regulations for action without a feeling of condemnation or punishment if I did not follow through.

111. I was able to offer or give directions and regulations for action without a feeling of condemnation or punishment if I did not follow through.

112. I was able to accept directions for action without a feeling of condemnation or punishment if I did not follow through.

113. I was able to reject directions for action without a feeling of condemnation or punishment if I did not follow through.

**Instructions—Part II:**

Perhaps you feel that you did not have enough interaction with the state Consultant on each of the previously rated statements to make a fair judgment. The following gives you an opportunity to rate the degree to which you feel you had interaction on each of the major elements. Mark the appropriate space on your answer sheet the same way as you did for Part I.

114. I exchanged information with the Consultant.

115. I exchanged clarification with the Consultant.

116. I exchanged opinions with the Consultant.

117. I exchanged suggestions with the Consultant.

118. I discussed directions and regulations with the Consultant.
Instructions-Part III

Sometime we are a little apprehensive when we become involved in a new project. This is normal! I need your help in determining where support and encouragement is most needed when involving teachers in a new project. The statements below are to be rated according to how apprehensive you felt at each stage of this study. Mark A on your answer sheet if you felt extremely apprehensive, E if you felt no apprehension, or any degree between these two extremes.

119. Upon receipt of the introductory letter explaining the entire study.

Extremely A  B  C  D  E  No
Apprehensive         Apprehension

120. Upon receipt of the letter indicating that I had been selected as a participant.

Extremely A  B  C  D  E  No
Apprehensive         Apprehension

121. At the first preliminary orientation meeting.

Extremely A  B  C  D  E  No
Apprehensive         Apprehension

122. When attempting to secure and use the recording equipment.

Extremely A  B  C  D  E  No
Apprehensive         Apprehension

123. During the first recorded class session.

Extremely A  B  C  D  E  No
Apprehensive         Apprehension

124. While listening to and evaluating the first recorded class session.

Extremely A  B  C  D  E  No
Apprehensive         Apprehension
125. Before and during the first telephone conference.
Extremely A B C D E No
Apprehensive  |  |  |  |  |  Apprehension

126. During the second recorded class session.
Extremely A B C D E No
Apprehensive  |  |  |  |  |  Apprehension

127. While listening to and evaluating the second recorded class session.
Extremely A B C D E No
Apprehensive  |  |  |  |  |  Apprehension

128. Before and during the second telephone conference.
Extremely A B C D E No
Apprehensive  |  |  |  |  |  Apprehension

129. During the third recorded class session.
Extremely A B C D E No
Apprehensive  |  |  |  |  |  Apprehension

130. While listening to and evaluating the third recorded class session.
Extremely A B C D E No
Apprehensive  |  |  |  |  |  Apprehension

131. Before and during the third telephone conference.
Extremely A B C D E No
Apprehensive  |  |  |  |  |  Apprehension

132. At the post-evaluative group meeting.
Extremely A B C D E No
Apprehensive  |  |  |  |  |  Apprehension
GENERAL EVALUATION REPORT ON AUDIO TAPE -
TELEPHONE STATE SUPERVISION

Instructions:

It is impossible to obtain your feelings, reactions, and
suggestions on many items of interest unless you have an opportu-
nity for free expression. Therefore, please respond briefly to the
following and make any additional comments desired in the space
provided.

1. Explain any unusual events or circumstances which you
feel may have affected your attitude, satisfaction
and/or participation in the study.

2. What do you consider to be the least valuable aspect(s)
of the study?

3. What do you consider to be the most valuable aspect(s)
of the study?

4. Do you think this method of state supervision has merit?
   Explain.

5. Do you feel that your relationship with the State
   Consultant was affected by the study? Explain.
6. Do you think that the presence of the tape recorder in the classroom affected student reaction and response? Explain.

7. List other uses for audiotape and/or telephone techniques in teaching, learning, and supervisory processes.

Note: Answer Nos. 8 and 9 only if in the past you were visited by the State Consultant in your school.

8. What is the value of the face-to-face supervisory visit by the State Consultant?

9. Which method, the school visit or the audiotape-telephone method, would you prefer? Explain.

10. COMMENTS:
APPENDIX F

RELATED DATA

1. Topics Discussed during Telephone Conferences
2. Bar Graph-Teachers' Perceptions of Growth and/or Improvement in the Teaching Process
3. Bar Graph-Teachers' Perceptions of Growth and/or Improvement in the Learning Process
4. Table - Teachers' Satisfaction with Method of State Supervision
5. Table - Teachers' Ability to Interact with State Consultant
6. Table - Number of Teachers Feeling Apprehension at Each Step in the Study
7. Computation of $r_s$ with Tied Ranks
TOPICS DISCUSSED DURING TELEPHONE CONFERENCES

Planning and development of statewide vocational education conference

The American Home Economics 1969 National Meeting

School visitations

Changing role of the teacher

How to cope with problem students

New England Association of Accreditation and Evaluation of Secondary Schools—visitation committee responsibilities and duties

Program planning for state home economics meeting

Future Homemakers of America

School growth and expansion—planning and problems

Curriculum materials and resources

Departmental planning

Student teaching—cooperating teacher concerns

Head of department concerns—evaluation, apathy, professionalism and release of teachers

Substitute personnel

Class scheduling

Appearance and dress of teachers

Developing pilot programs

Interdepartmental cooperation

Assistance on masters' thesis

Graduate opportunities

Higher educational opportunities for students

Social problems

Individualized student problems

Educational philosophy
TEACHERS' PERCEPTIONS OF GROWTH AND/OR IMPROVEMENT IN THE TEACHING PROCESS

Percentage

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<th>Description</th>
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<td>B</td>
<td>A little growth and improvement</td>
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<tr>
<td>C</td>
<td>Fair growth and improvement</td>
</tr>
<tr>
<td>D</td>
<td>Good growth and improvement</td>
</tr>
<tr>
<td>E</td>
<td>Outstanding growth and improvement</td>
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Notes:

Experienced teachers - [ ]

Inexperienced teachers - [ ]
TEACHERS' PERCEPTIONS OF GROWTH AND/OR IMPROVEMENT IN THE LEARNING PROCESS

Notes:

Scale:
A. No growth or improvement
B. A little growth and improvement
C. Fair growth and improvement
D. Good growth and improvement
E. Outstanding growth and improvement

Experienced teachers -

Inexperienced teachers -
## EXPERIENCED (E) AND INEXPERIENCED (I)

TEACHERS' SATISFACTION WITH METHOD OF STATE SUPERVISION

(N = 25)

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<th>Group</th>
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<th>Satisfying</th>
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<td>Low A</td>
<td>B C D</td>
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<td>A. Mechanics of the Method</td>
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<tr>
<td>1. Time of year for the study</td>
<td>E 0 0 25 31 44</td>
<td>0 0 19 50 31</td>
<td>6 0 13 31 50</td>
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<tr>
<td>2. Length of study to achieve meaningful results</td>
<td>E 0 0 44 19 31</td>
<td>0 0 11 22 56</td>
<td>6 0 19 28 38</td>
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<tr>
<td>3. Orientation to study</td>
<td>E 0 0 6 25 69</td>
<td>0 0 11 22 56</td>
<td>6 0 19 28 38</td>
</tr>
<tr>
<td>4. Use of tape recorder in learning-teaching process</td>
<td>E 0 0 11 22 67</td>
<td>0 0 11 22 56</td>
<td>6 0 19 28 38</td>
</tr>
<tr>
<td>5. Quality of tape recordings</td>
<td>E 0 0 6 25 69</td>
<td>0 0 11 22 56</td>
<td>6 0 19 28 38</td>
</tr>
<tr>
<td>6. Length of recorded sessions to achieve desired results in learning-teaching process</td>
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<td>0 0 11 22 56</td>
<td>6 0 19 28 38</td>
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<td>B. Method as an Evaluative Technique</td>
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<tr>
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<td>0 0 11 22 56</td>
<td>6 0 19 28 38</td>
</tr>
<tr>
<td>2. In identifying the positive aspects of the learning-teaching process</td>
<td>E 0 0 6 19 25 69</td>
<td>0 0 11 22 56</td>
<td>6 0 19 28 38</td>
</tr>
<tr>
<td>3. In identifying the positive aspects of the learning-teaching process</td>
<td>E 0 0 11 22 67</td>
<td>0 0 11 22 56</td>
<td>6 0 19 28 38</td>
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<tr>
<td>4. In seeking and finding solutions to learning-teaching problems</td>
<td>E 0 0 11 22 67</td>
<td>0 0 11 22 56</td>
<td>6 0 19 28 38</td>
</tr>
<tr>
<td>5. In discussing and finding answers to other personal and educational issues</td>
<td>E 0 0 11 22 67</td>
<td>0 0 11 22 56</td>
<td>6 0 19 28 38</td>
</tr>
<tr>
<td>6. In stimulating teacher self-evaluation</td>
<td>E 0 0 11 22 67</td>
<td>0 0 11 22 56</td>
<td>6 0 19 28 38</td>
</tr>
<tr>
<td>7. In stimulating student self-evaluation</td>
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<td>0 0 11 22 56</td>
<td>6 0 19 28 38</td>
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<tr>
<td>8. In stimulating teacher self-improvement</td>
<td>E 0 0 11 22 67</td>
<td>0 0 11 22 56</td>
<td>6 0 19 28 38</td>
</tr>
<tr>
<td>9. In stimulating student self-improvement</td>
<td>E 0 0 11 22 67</td>
<td>0 0 11 22 56</td>
<td>6 0 19 28 38</td>
</tr>
<tr>
<td>10. In developing objectivity in evaluation</td>
<td>E 0 0 11 22 67</td>
<td>0 0 11 22 56</td>
<td>6 0 19 28 38</td>
</tr>
<tr>
<td>11. In promoting comprehensive evaluation</td>
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<td>0 0 11 22 56</td>
<td>6 0 19 28 38</td>
</tr>
<tr>
<td>12. In providing a normal, natural climate for evaluation</td>
<td>E 0 0 11 22 67</td>
<td>0 0 11 22 56</td>
<td>6 0 19 28 38</td>
</tr>
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</table>
### TEACHERS' ABILITY TO INTERACT WITH STATE CONSULTANT

**PERCENT REPORTED ON FIVE-POINT SCALE**

(N = 25)

<table>
<thead>
<tr>
<th>Elements</th>
<th>Listen</th>
<th>Ask For</th>
<th>Offer</th>
<th>Accept</th>
<th>Reject</th>
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<td>13</td>
</tr>
<tr>
<td>E</td>
<td>88</td>
<td>78</td>
<td>94</td>
<td>56</td>
<td>88</td>
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</table>

| Information| 0          | 0          | 0          | 0          | 0          |
| C          | 0          | 0          | 0          | 22         | 0          |
| D          | 6          | 22         | 13         | 44         | 13         |
| E          | 94         | 78         | 88         | 56         | 88         |

| Clarification| 0         | 0          | 0          | 0          | 0          |
| C          | 0          | 0          | 0          | 22         | 0          |
| D          | 6          | 22         | 13         | 44         | 13         |
| E          | 94         | 78         | 88         | 56         | 88         |

| Opinions   | 0          | 0          | 0          | 0          | 0          |
| C          | 0          | 0          | 0          | 22         | 0          |
| D          | 6          | 22         | 6          | 22         | 6          |
| E          | 94         | 78         | 94         | 56         | 94         |

| Suggestions| 0          | 0          | 0          | 0          | 0          |
| C          | 0          | 0          | 0          | 11         | 0          |
| D          | 6          | 22         | 6          | 22         | 6          |
| E          | 94         | 78         | 94         | 67         | 94         |

176
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<tr>
<th>Directions</th>
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<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
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<td>94</td>
<td>89</td>
<td>94</td>
<td>88</td>
<td>94</td>
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</table>

Scale:
- A - Almost never
- B - Sometimes
- C - Usually
- D - Most of the time
- E - Always

Experienced Teachers - 16
Inexperienced Teachers - 9
### NUMBER OF TEACHERS FEELING APPREHENSION AT EACH STEP IN THE STUDY

<table>
<thead>
<tr>
<th>Steps</th>
<th>Experienced Teachers N=16</th>
<th>Inexperienced Teachers N=9</th>
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<tr>
<td></td>
<td>Extreme Apprehension</td>
<td>No Apprehension</td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>1. Introductory letter</td>
<td>2</td>
<td>3</td>
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<tr>
<td>2. Selection as participant</td>
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<td>2</td>
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<tr>
<td>3. Preliminary meeting</td>
<td>1</td>
<td>3</td>
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<tr>
<td>4. Secures use of equipment</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>5. First taped class</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>6. Evaluation of first class</td>
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<td>3</td>
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<tr>
<td>7. First telephone conference</td>
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<td>2</td>
</tr>
<tr>
<td>8. Second taped class</td>
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<td>1</td>
</tr>
<tr>
<td>9. Evaluation of second class</td>
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<td>2</td>
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<tr>
<td>10. Second telephone conference</td>
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<tr>
<td>11. Third taped class</td>
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<tr>
<td>12. Evaluation of third class</td>
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<td>13. Third telephone conference</td>
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<td>14. Post-evaluative meeting</td>
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COMPUTATION OF $r_s$ WITH TIED RANKS

An effort was made to determine if there was a correlation between the responses of experienced and inexperienced teachers relative to (1) ability to interact with "the state consultant on five major elements of verbal interaction, and (2) the amount of interaction or exchange on each element. Since an ordinal scale was used on the instrument (Appendix E) it was necessary to use a Spearman rank correlation coefficient ($r_s$).

Siegel indicates that tied observations must be handled in a different manner. If the proportion of ties is not large, an average rank can be assigned and the effect or $r_s$ is negligible. If the proportion is high, then a correlation factor must be incorporated in the computation of $r_s$.

Computation of $r_s$ with tied ranks changes from:

$$r_s = 1 - \frac{6 Ed^2}{N(N^2 - 1)} \quad \text{to} \quad r_s = \frac{Ex^2 + Ey^2 - Ed^2}{2 Ex^2 Ey^2}$$

$$(Ex^2 = \frac{N^3}{12} - ET_x \quad \text{and} \quad Ey^2 = \frac{N^3}{12} - ET_y)$$

The following problem is computed using the standard formulas for the purpose of determining whether ties change $r_s$ to a marked degree. The problem consists of items 89 and 114 as scored by nine inexperienced teachers and is typical of all other problems. Possible scores for each item were A, B, C, D and E. These were changed to corresponding numerical scores ($A = 1; E = 5$).
Problem

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<tr>
<th>Subject</th>
<th>Letter</th>
<th>Numerical Scores</th>
<th>Rank</th>
<th>X Variable</th>
<th>Letter</th>
<th>Numerical Scores</th>
<th>Rank</th>
<th>Y Variable</th>
<th>D</th>
<th>D²</th>
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</table>

E = 81.50

With Correction

a.) \( \text{E}x^2 = \frac{9^3 - 9}{12} \cdot \frac{(7^3 - 7)}{(12)} \)

\[
= \frac{729 - 9}{12} 
= \frac{720}{12} - \frac{(336)}{(12)} 
= \frac{384}{12} 
\]

\( \text{Ex}^2 = 32.8 \)

b.) \( \text{E}y^2 = \frac{720}{12} \cdot \frac{(7^3 - 7 + 2^3 - 2)}{(12)} \)

\[
= \frac{720}{12} - \frac{(336 + 6)}{(12)} 
= \frac{720}{12} - \frac{342}{12} 
= \frac{378}{12} 
\]

\( \text{Ey}^2 = 31.5 \)
c.) \[ Ex^2 = 32.8 \]

\[ Ey^2 = 31.5 \]

\[ Ed^2 = 81.5 \]

d.) \[
rs = \frac{Ex^2 + Ey^2 - Ed^2}{2\sqrt{Ex^2 Ey^2}} = \frac{32.8 + 31.5 - 81.5}{2\sqrt{32.8 \cdot 31.5}}
\]

\[
-\frac{17.2}{2\sqrt{1033.2}} = -\frac{17.2}{64.2} = -0.25
\]

e.) With Correction \( rs = -0.25 \)

Without Correction

a.) \[
rs = 1 - \frac{6(81.50)}{9(80)}
\]

\[
= 1 - \frac{81.50}{120}
\]

\[
= \frac{120 - 8.50}{120} = \frac{111.50}{120}
\]

\[
rs = \frac{39.5}{120}
\]

\[
rs = 0.33
\]

b.) Without Correction \( rs = 0.33 \)

Analysis

\( rs \) using the standard formula is +0.33. However, when the tied rank formula is applied it becomes -0.25; obviously, too much of a correction for the correlation to have meaning. It is suspected that the same kind of results will occur on the other forty-nine correlations as data on each problem follows the same general pattern. It is clear that the major contribution to the large reduction
in \( r_s \) are the seven responses of E in each variable.

It was determined that a statistical analyses of these data is not appropriate. Comparisons can best be made in a descriptive way. For example, it might be reported that of nine inexperienced teachers, on items 89 and 114, five were in complete agreement and reported E on both variables. Three of the remaining four differed by one category but all were D x E comparisons. Only one inexperienced teacher reported a difference of two categories—a C x E comparison.

This information was developed in cooperation with Dr. Donald Randall, Lecturer, Tests and Measurements, Tufts University, Medford, Massachusetts and consultant for the project. The basic references used were by Siegel and Hayes.*

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**Bulletins and Reports**


**Articles and Periodicals**


**Unpublished Material**


Other Sources