

A COMPARATIVE STUDY OF ATTITUDINAL AND BEHAVIORAL
CHANGE IN TEACHERS OF ART AS A RESULT OF VIDEO-
TAPE FEEDBACK AND CLASSROOM TEACHING
EXPERIENCE IN A PROGRAM PRIOR TO
STUDENT TEACHING

By

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"Acquire new knowledge whilst thinking over the old, and you may become a teacher of others."

.....Confucius

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CHAPTER I

STRUCTURE OF THE STUDY

The Problem and the Rationale

In recent years education has increasingly suffered attack from within and without the profession for its inability to produce improved approaches to teacher preparation. The difficulty appears to exist as a result of the failure on the part of educators to produce reliable experimental results rather than to the paucity of innovative programs (25). New programs have focused on such concerns as personal values, problem-solving skills, shared responsibility by public schools and preparing institutions, involvement, feedback, commitment, sensitivity training and team teaching. However, when teacher and learners are brought together in some form of close community the opportunity presents itself both for teaching and learning. Even so, often to the surprise and sometimes to the regret of those involved, what is "taught" is frequently not that which is "learned." Recent research on imitative learning supports the theory that behavioral change can be significantly affected by vicarious reinforcement and imitative learning (16, 18, 77).

The kind and quality of teacher verbal and manipulative skills seem to have a significant effect upon the attitudes and values of students. Since attitudes and values seem to have a direct influence upon the level of student learning, it would appear imperative that beginning teachers should not only be cognizant of current research on learning,

but should also have the opportunity to practice those skills and competencies which will result in more successful classroom experiences. Development of teaching techniques or "survival skills," as referred to by Dr. John Goodlad (37), constitute one of the most important aspects of teacher preparation. Perhaps it should be noted, however, that these techniques can only have long-term effectiveness when they are formulated to work with human nature instead of counter to it. This feeling is echoed by Dr. Dwight Allen (6) when he recommends the development of teaching skills with a gradually increased exposure to students in a classroom setting. Inasmuch as research on teaching and learning relationships exclusively conducted in a laboratory setting frequently tends to be only partially reproducible in classroom practice, this study has been conceived in such a manner as to integrate art laboratory practice with art field experiences in actual classroom environments.

Seldom have the traditional laboratory experiences in student teaching or internship really prepared the would-be teacher for the many roles that he is required to fill. Frequently a beginning teacher is given little or no allowance for the fact that this may be his initial experience in meeting a full schedule of classes, numbering anywhere from five to nine per day. The situation may become far more complex when it is coupled with the necessity of rapidly assuming the multiple roles of subject matter specialist, parent, bookkeeper, counselor and educational facilitator. Faced with this situation it is not difficult to understand what John Dewey was referring to when he said:

Now, the teacher who is plunged prematurely into the pressing and practical problem of keeping order in the schoolroom has almost of necessity to make supreme the matter of external attention. The teacher has not yet had the training which affords psychological insight--which enables him to judge

promptly (and therefore almost automatically) the kind and mode of subject-matter which the pupil needs at a given moment to keep his attention moving forward effectively and healthfully. He does know, however, that he must maintain order; that he must keep the attention of the pupils fixed upon his own questions, suggestions, instructions and remarks, and upon their 'lessons.' . . . The student (teacher) adjusts his actual methods of teaching, not to the principles which he is acquiring, but to what he sees succeed and fail in an empirical way from moment to moment: to what he sees other teachers doing who are more experienced and successful in keeping order than he is; and to the injunctions and directions given him by others (24).

Although Roof (71) suggests that the beginning teacher spend a year in an internship program with one master teacher, for the most part this would probably not provide opportunities to experiment freely and learn many methods of problem-solving which some other preparation programs might provide. Even though ideally it is assumed that student teachers will be placed only with highly qualified cooperating teachers, in an area where there exists a limited number of teachers available it is unlikely that each student teacher will have the opportunity to work closely with or even observe an outstanding teacher in his particular subject matter field. In a study conducted by Price (68) using the Sanders' Observational Schedule and the Minnesota Teacher Attitude Inventory, it was found that student teachers seemed to acquire many of the teaching practices of their cooperating teachers. Many of these teachers are not adequately prepared to supervise student teachers in that even though they themselves may be able to teach well, some are apparently not capable of analyzing their own teaching behavior, and consequently find that they are unable to help students develop self-analyzation skills. Proper supervision requires an enormous amount of time which may not be available to a cooperating teacher. Moreover, supervision frequently is an added responsibility without concomitant reduction in teaching

load to allow for the increased amount of time and energy required to adequately guide student teachers in developing teaching proficiency.

Student teachers not only need the opportunity to observe more than one model of the teacher in the classroom, but also an opportunity to examine schools with differing social and cultural environments, differing organizations and differing teacher role expectations (61). Hunt (43) indicates that coping behavior, according to Piaget, is substantially although not fully, a function of environmental circumstances. Accommodative modifications of schemata that constitute development result from changes in circumstances. Thus, the greater variety of opportunities presented to the individual for the development of flexibility in behavioral change the more mobile he becomes. The greater the number and variety of new things an individual sees and hears, the more he is interested in seeing and hearing. Moreover, the wider the range of experience with which he has coped, the greater is his capacity for "coping." Dr. Allen (4) agrees with those educators who contend that cooperating teachers are frequently inadequately prepared to effectively guide student teachers through a wide range of learning experiences within a short period of time, and that at best college or university supervision is often minimal. As an alternative to traditional methods of preparing student teachers Dr. Allen suggests that an adequately structured program of micro-teaching might well provide the opportunity for student teachers to develop a number of alternatives for professional decision-making.

With the ever increasing number of persons entering the profession there is heightened concern over the question of whether school systems can provide the spiraling needs in student teacher experiences, both in

quality and quantity. To combat this problem Cruickshank proposes the use of stimulation techniques in providing a means of exposing student teachers to a variety of problem-solving situations which they may encounter in the classroom.

Many professional educators continue to question the ability of student teaching to provide the variety of exposure and freedom a neophyte requires in order to develop unique teaching and problem-solving skills. It is possible that student teachers merely attempt, successfully or unsuccessfully, to mimic the behavior of the supervising (cooperating) teacher. Later, standing alone as a beginning teacher, the student may find the acquired behaviors are not natural and that they work less well than they did in the classroom carefully conditioned by the supervising (cooperating) teacher (22).

Basic to the development of more relevant and effective teacher preparation programs is a better understanding and utilization of knowledge of classroom teacher behaviors and their effects upon student learning. In a study conducted by Fortune (28) it was found that four teacher behaviors appeared to be discriminating factors in successful lesson presentation: (1) student manipulation of subject content elements (2) student verbal practice of subject content elements (3) teacher reinforcement of student successful behavior and (4) teacher sensitivity to student needs, interests, and questions.

Although knowledge of the field is necessary for a teacher to function effectively, student teacher attitude toward teaching and students as well as confidence in his own ability is of equal importance. The development of a positive self-concept is one means of attitudinal improvement. This frequently can be accomplished by means of greater experience both in breadth and depth coupled with feedback related to performance. In a study conducted by Horowitz (42) in relationship to student teacher concerns both before and following student teaching experiences in a school situation the author found that even though

student teachers were more ideographic, or concerned with self, than their cooperating teachers, evidence of change in attitude was apparent even after experiences as short as two weeks in duration. In another study related to self-concept, Feshbach and Beigel (26) found that there was a positive correlation between teacher's self-perception and their perception of the ideal student. Sedgwick and Misfeldt (73) essentially appear to agree with much of what Rice (69) proposed in providing opportunities for earlier contact with children and teaching problems. They feel that earlier and more numerous exposures to children will allow student teachers to gain greater self-confidence before engaging in student teaching. This, they consider, provides a much more realistic integration of academic and professional instruction toward preparing effective teachers.

To expose student teachers to only one or two experienced models in student teaching in the form of cooperating teachers drastically limits the problem-solving repertoire of the student teacher. It would seem that a student teacher's ability to meet and solve a variety of problems in teaching would be vastly expanded were he to engage in practice of this skill along with other student teachers of similar experience who generally bring to the teaching situation no strongly entrenched, traditional approaches to meeting problems. It might be hypothesized that this opportunity to observe individuals in a peer group coping with teaching situations could well develop within the individual student teacher a greater flexibility in coping with classroom situations in the field.

Purpose

The purpose of this study is to determine whether the preparation of teachers of art can be so designed as to produce a greater mastery of teaching skills; result in the achievement of a higher level of knowledge in the field of art; and elicit greater positive student teacher attitudes toward art and teaching than traditional methods of teacher preparation.

Proposed Procedure

At the beginning of the student teaching block the Eisner Art Attitude Inventory, the Eisner Art Information Inventory and the Minnesota Teacher Attitude Inventory will be administered to all student teachers majoring in art. These instruments will again be administered during the final week of student teaching following eight weeks of on-campus class work and eight weeks of student teaching in the public schools. At the same time, both at the beginning and conclusion of the semester, five-minute lesson presentations will be recorded on video-tape.

Three groups will be selected and designated as Groups A, B, and C. Group A will be exposed to the traditional form of student teacher preparation composed of classroom observations in the public schools, text assignments, library research and classroom discussions. Each week these students will be expected to prepare and present two five-minute lessons. Feedback will be in the form of peer-group evaluation. In addition, one lesson during the first eight-week period will be given by each member of Group A and will receive college supervisor evaluation as well as evaluation of student teachers in all three groups. At the end of eight weeks on campus each student teacher will be assigned to two

public school situations, one at the elementary level for four weeks and one at the secondary level for four weeks. These situations will be under the supervision of an experienced art cooperating teacher.

Group B will have similar, but fewer, in-class activities, however, their lesson presentations will not only have peer-group but college supervisor critiquing as well. In addition half of this group will be assigned to teach one lesson per week in one of the local public elementary schools. These lessons will not be supervised by an art teacher. The enrollment in the class will be from 25-30 children from grades one through six. Following this first eight-week on-campus activities period student teachers in Group B will each be assigned to one four-week student teaching experience at a secondary level under the guidance of an art teacher in a cooperating school as well as a four-week student teaching experience in a cooperating school at the elementary level.

Group C will be exposed to the same in-class activities as Groups A and B although fewer in number and will be assigned to prepare and present two five-minute lessons per week emphasizing particular teaching skills. These lesson presentations will be observed and evaluated by a peer-group; recorded on video-tape; and will be replayed and evaluated with the student teacher by the college supervisor. Students in this group will also have one class per week of unsupervised teaching experience in one of the local elementary schools, however, the class size which they teach will contain from 5-8 children. Following the first eight-week period on campus these students will be assigned to a four-week unsupervised student teaching situation in one of the local elementary schools as well as four weeks of supervised student teaching at the secondary level.

Group A will serve as a control group and will have no art teaching experiences with children and virtually no feedback from their college supervisor relative to their teaching during the eight-week period on campus prior to student teaching. Group B will receive peer-group and university supervisor feedback concerning lesson presentations while half of the group will also have art teaching experiences prior to student teaching. Group C will have teaching experiences with children in a small group situation prior to student teaching, along with receiving peer-group and college supervisor feedback while viewing their lesson presentations on video-tape.

H₁ Hypothesis

1. Student teachers exposed to contact with children in art teaching situations prior to student teaching will display a greater increase in positive attitude toward teaching than those student teachers who do not have similar art teaching contact with children.
2. Student teachers who are exposed to both perceptual and symbolic modeling of desirable teacher behaviors in the form of verbal and written instructions, as well as controlled video-tape prompting and practice during micro-teaching experiences, will display more similar behaviors in student teaching than those student teachers exposed only to field experiences involving observation of teaching prior to student teaching.
3. Student teachers having unsupervised art teaching opportunities prior to student teaching will demonstrate

a greater increase in knowledge of art than those student teachers engaged in a traditional program of student teacher preparation and supervised student teaching.

4. Student teachers whose initial experience in teaching is limited in class size and provides for a spaced practice will tend to display a more positive attitude toward art than those who have either been exposed only to large class encounters or to no teaching contact with children prior to student teaching.

H₀ Hypothesis

1. There will be no significant difference in the attitudes of student teachers toward teaching as a result of early contact with children in teaching situations prior to student teaching.
2. There will be no significant difference in the performance of student teachers as a result of the type of modeling behavior and feedback to which they are exposed prior to student teaching.
3. There will be no significant difference in art knowledge of student teachers as a result of the method of preparation engaged in prior to student teaching.
4. There will be no significant difference in the attitudes of student teachers toward art as a result of the method of preparation engaged in prior to student teaching.

Proposed Method of Analysis

In order to analyze the results of the completed investigation the following steps will be taken:

1. The Minnesota Teacher Attitude Inventory will be administered to all student teachers in Art at the beginning and conclusion of the semester.
2. Video-taped lessons recorded at the beginning and the conclusion of the semester will be viewed and scored by three raters. The criterion measure will be the frequency in using the teaching skills of establishing set, stimulus variation, questioning, reinforcement and closure.
3. At the beginning and conclusion of the semester the Eisner Art Information Inventory will be administered.
4. At the beginning and conclusion of the semester the Eisner Art Attitude Inventory will be administered.
5. An analysis of variance will be employed to determine whether there is a significant difference between the scores of the three groups on the measures used.

Definition of Terms

Controlled video-taped sequences

Short video-taped examples demonstrating the performance of a single behavioral skill.

Cooperating School

A public school whose administration, staff and faculty have agreed to cooperate with the institution of higher learning in providing facilities and assistance in helping prepare the student teachers.

Cooperating Teacher

A public school teacher who is charged with the responsibility of supervising a student teacher in a public school classroom.

Eisner Art Attitude Inventory

An attitude inventory that consists of sixty statements designed to sample student attitude related to art. The inventory is divided into four sub-tests relating to satisfaction in (a) art; (b) voluntary activity in art; (c) self-estimate in art; and (d) attitude toward art and artists. Items on the Inventory are scored from one to five, corresponding to most positive to most negative responses.

Eisner Art Information Inventory

An information inventory that consists of sixty multiple choice questions designed to sample student information on basic art knowledge. The inventory consists of four sub-tests relating to art terms, media and processes, artists and their works and art history. Items on the Information Inventory are given one point for each correct response.

Feedback

Knowledge of results of performance.

Field Experience

Observation experiences engaged in by student teachers in a public school situation.

Micro-teaching

A scaled-down teaching encounter in which a student teacher practices a single concept or skill in the presence of a small group of fellow student teachers for a period of about five minutes.

Minnesota Teacher Attitude Inventory

An attitude inventory that consists of one hundred and fifty statements designed to sample opinions concerning teacher-student relations. Since there are no right or wrong answers, responses indicate only an individual's attitude regarding the statement. Responses to statements are divided into five categories: strongly agree, agree, undecided, disagree, and strongly disagree.

Perceptual Model

A video-taped sequence illustrating the performance of a single desirable teaching behavior.

Prompting

Verbal or visual feedback

Self-concept

A student teacher's perception of his own value.

Skill

A behavioral competency considered desirable in the teaching act.

Student (Hereinafter referred to as S)

A child or pupil in grades K-12 or special education.

Student Teacher (Hereinafter referred to as ST)

A university student who has completed the major portion of his academic and professional art requirements for undergraduate degree.

Symbolic Model

Written or verbal illustration of a single desirable teaching behavior.

Video-Tape Recorder

Equipment which is constructed to provide both sound and image on a television monitoring screen.

Video-Tape Team Evaluator

A professional educator selected to rate micro-teaching lesson tapes, and working in one of two teams composed of three raters each.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

Teachers are sometimes criticized for being too idealistic with the result that STs frequently complain that they are not being taught the practical things such as how to maintain discipline; how to plan a lesson; or what to do with a class on the first day of school. Leinwand (54) contends that the immediate involvement of trainees in the process of teaching is of far more value than the traditional preparation which employs the use of observation without much ST interaction with children. Dr. Bush (20) on the other hand, considers that substantial responsibility for teaching an entire class prior to any professional training is judged to be not only premature for the trainee, but questionable for the Ss.

Selective observation involves careful consideration of certain facts or events and implies close and directed attention. Looking becomes observing only when a framework defines what is to be looked at and a focus directs the observer's attention in certain ways to particular aspects of the event. He must be alerted concerning what to look for; made aware of the "classic situations"; what moves may be expected; and what "rules" guide the performance.

Observation for those preparing to participate in an occupation should be arranged and directed, first, to afford opportunities for a detailed critical analysis of competent 'live'

performance of the skill or skills the occupation involves; secondly, to stimulate a continual evaluation of the various parts of the performance as well as the whole; and thirdly, to encourage a vicarious role-playing, in which the novice tries to 'improve' the performance he observes by changes he devises and 'tries out' in his imagination (62).

Micro-teaching

That adequate preparation for teaching will guarantee adequate performance seems to be a reasonable hypothesis, however, even this area is under investigation. Politzer (65) and others advocate the use of micro-teaching, as conceived by Bush and Allen at Stanford University, in the preparation of STs. This approach to teacher preparation emphasizes the importance of practice in the form of discrete units of desirable teacher behavior. Micro-teaching, as described by Dr. Allen, (5) is a scaled-down teaching encounter both in terms of class size (1-5 students) and time (5-20 minutes). Although role-playing was a part of the original program, in later program developments this was eliminated. S evaluation of STs, however, has continued to remain an integral part of the training. Micro-teaching simplifies the complex task of instruction since it affords a means of isolating specific variables in the total instructional act which can be identified and manipulated. By the use of video-tape recordings of teaching performance at periodic intervals, evaluation and re-evaluation can be done by one or several persons. Micro-teaching provides a greater control over practice in a wide range of situations, both in amount of time in practice as well as in the composition of the class. This method of preparation not only requires fewer facilities and Ss, but leads to the economy of supervision by increasing the amount of practice possible within a limited period of time.

Micro-teaching can serve several purposes:

1. It can help STs analyze teacher behavior.
2. It can help STs analyze S behavior.
3. It can help STs analyze the content of the lesson.

John Meier (59) refers to micro-teaching as a teaching encounter in which only one skill is practiced, using the ST's subject matter field as the frame of reference within which to practice. The ST is generally introduced to the micro-teaching practice by being given the opportunity to teach any aspect of his subject area in which he feels confident. Private review of the initial attempt allows the ST to gain familiarity with the medium without fear of public embarrassment. With the knowledge that tapes of teaching practices can be erased, even the sensitive, fearful or perfectionist type of ST is given a greater sense of security.

According to Gage (34) what is really important in micro-teaching is the attempt to analyze teaching into limited, well-defined components that can be taught, practiced, evaluated, predicted, controlled, and understood in a way that has hithertofore proven impossible for teaching viewed in the larger time blocks of an hour, a day, a week or a year. The independent variables which fall into three categories are those of demonstration, practice and feedback. Micro-teaching with the practice of discrete skills versus teaching in a regular classroom; self-feedback with reinforcement by means of video-tape recordings versus feedback from a college supervisor or cooperating teacher; positive versus negative feedback; and perceptual modeling either in a live or filmed form versus symbolic feedback in the form of written or verbal material.

In a study conducted by Kallenbach (46), it was found that STs exposed to micro-teaching practice were judged to have equally as well or

better developed teaching skills with only one-fifth the length of time required by a control group. The major contribution in favor of micro-teaching as compared to the alternate methods of preparing students to perform in a classroom situation is in the element of economy of time.

Teaching Skills

Allen (2) suggests that micro-teaching is an excellent vehicle for the practice of such teaching skills as establishing set, closure, stimulus variation, questioning and reinforcement as well as others which he identifies. Other investigators feel that the study of teaching skills as practiced through a micro-teaching program introduced earlier in the STs preparation program might prove more effective than confining this kind of experience to the final semester (30).

It is important that teachers feel a sense of control. With a range of alternatives to bring to bear on a problem this sense of control is greatly enhanced. If one procedure does not succeed they have another they may employ (4). Through the practice of teaching skills focused on behavioral objectives the ST can have visible evidence of successful accomplishment (19). Bush (20), Popham (67), and Goodlad (37) agree regarding the importance of carefully stated objectives which can be evaluated in terms of behavioral outcomes. Consequently, S learning is probably the most effective means of evaluating instructional effectiveness. Through the use of video-taped practices in developing teaching skills, as well as the recording of these skills applied during actual classroom teaching encounters, STs can become aware of areas for improvement of teaching without total reliance upon the rather infrequent, traditional observations of cooperating teacher or college

supervisor (41). Further, there appears to be general agreement among many researchers that the development and practice of one skill at a time is more effective than focusing attention upon a myriad of areas for ST improvement (47).

Although some research indicates that the lecture method is superior in the transmission of subject matter content, in studies conducted by Flanders and Amidon (48), the indirect teaching approach was usually associated with superior pupil achievement. The indirect approach utilizes the acceptance of S feelings and ideas; the use of questioning and reinforcement; and the encouragement of S initiated questions and contributions. In studies reported by Kirk and Amidon (48) there was no significant difference shown in change of attitude between the experimental and control groups, however, there was a difference in the increase of the indirect approach by the experimental group. In addition, the study indicated that with increased experience teachers became more direct in their general use of language and in their responses to Ss in that they lectured more and asked fewer questions. Although they tended to be less concerned with using and working with S statements, as time went on, they did tend to become more indirect in their attempts to motivate and control Ss.

Amidon and Giammatteo (10) found that teachers identified as superior used questions as a means of controlling noise and clarifying ideas about twice as often as the normative group. Statements indicating acceptance of feeling were made about three times as often by those teachers identified as superior as opposed to the normative group. Reinforcing statements were made as frequently by the normative group as by the superior group, however, the superior teacher gave praise after

S-initiated ideas and gave reasons for praise more often than the normative group. Statements that indicated acceptance and use of pupil ideas were used fifty percent more frequently by superior teachers than teachers in the normative group. It was found that about one-fifth of all classroom talk was devoted to questions, but the group of superior teachers asked about twice as many questions of a broad, general nature which demanded S-initiated talk than did the normative group. Although both groups used about forty percent of the classroom talk in lecture, the superior teachers were interrupted more frequently by S questions during their lectures than the average teachers. Direction-giving and criticism, as well as silence and/or confusion, was almost twice as prevalent in the normative group as in the group designated as superior teachers.

Psychological and educational literature shows a considerable amount of research relating to the effects of reinforcement on learning. Bandura and Kupers (14) found that forty-one percent of the subjects in a peer model condition rewarded themselves in excess of their model's maximum reward, whereas only sixteen percent of the Ss followed this pattern of behavior when observing adult models. Regardless of treatment conditions, Ss who showed high achievement levels displayed greater self-reinforcement which was at the .01 level. However, in another study conducted by Bandura and Whelen (17), contrary to prediction, there was no significant difference in the magnitude of self-reward as a function of prior success-failure experiences.

Modeling

Haberman (39) suggests that the theoretical assumptions regarding

learning and behavioral changes should be a synthesis drawn from behavioral psychology, psychiatry and social psychology which holds that we learn what we do; that one's actions and perceptions of goodness and badness are influenced by significant others; and that performance of any role can only be understood in the context of its group and organizational expectations. He further advocates that modeling of desirable behaviors by teachers of teachers may well be an important factor influencing the teaching behaviors of STs. Knight (49) as well as Dever and Moore (23) agree that through the use of video-tape desirable teaching behaviors can be observed by STs. With video-tape feedback STs can compare their own performances with an acceptable criterion performance.

Johnston (44) reports findings from a study she conducted relating to the use of prompting, practice and feedback that the use of video-taped sequences was significantly more effective in training teachers to critically observe S behavior in a classroom than observation without feedback, symbolic modeling via the use of verbal description of skillful observation, or in the no-treatment group.

Examining the effects of symbolic and perceptual modeling as feedback, Orme (63) found that prompting feedback was found to be significantly more effective than self-feedback. However, a combination of prompting and confirmation feedback was found to be more effective than either of the former independently. In this instance the second presentation of the perceptual model constituted prompting feedback and symbolic modeling was defined as confirmation feedback. The experiment sought to determine which would be the most efficient, symbolic modeling in which written or verbal instructions were given to the STs, or perceptual modeling, in which live or filmed modeling of a particular skill

was presented. The study revealed that a combination of perceptual and symbolic modeling proved to be the most effective, and that perceptual modeling when taken alone was much superior to symbolic modeling when considered alone.

It was demonstrated in a study by Berger (18) that the level of retention of learning was directly related to the number of practices engaged in by the observer. The experimenter found that observers in the study tended to practice in accordance with the model's announced choices and that performance of signals by the model resulted in an increase in the practice of these signals by the observer. The study also revealed that observational learning can occur independently of reinforcement. Berger concluded that the model's choice behavior determined to a large extent what the observer practiced, and consequently what he learned.

In a number of studies conducted by Bandura, Ross and Ross (16) similar conclusions were found. Model behavior which met with success, regardless of the means, was frequently internalized and imitated by observers. The experimenters predicted that if the behavior of the model was highly successful in producing social and/or material rewards, the observer would identify with the model, even though he might dislike the attributes of the model. Response acquisition from vicarious or imitative learning, according to commonly held theoretical assumption, is based essentially on a process of covert instrumental conditioning in which the observer acquires responses by covert imitative performance of the modeled behavior. The occurrence of vicarious learning phenomena, is assumed to be contingent upon the administration of reinforcing stimuli to the model which the observer in turn experiences as vicarious

reinforcement. The authors report that responses can be acquired, or the characteristics of existing response hierarchies may be modified, as a result of observation of modeled behavior and its response consequences without the observer performing any overt responses or receiving direct reinforcement during the period of response acquisition.

In another study conducted by Bandura and Mischel (15) it was found that concerning the relative efficacy of symbolic and perceptual models in modifying behavior, the perceptual model conditions not only yielded greater differences, but were also more stable over time. Bandura and Whelen (17) found in another study that Ss exposed to rewarding experiences as well as Ss exposed to superior models were generally more self-rewarding than those exposed to other treatments. Bandura and Kupers (14) discovered that there was no significant difference in the amount or frequency of response as a function of the sex of the model. However, in this study there was a higher correlation between responses of Ss to adult models than there was between Ss and peer models.

Practice and Feedback

The principles that learning in a situation controlled by reward is preferred, and that success experiences make failure somewhat less difficult to accept are related to the subtly rewarding experience which is frequently felt by a person viewing himself on video-tape. Video-taping greatly increases the accuracy and effectiveness of analyzing teaching behaviors. Feedback is a most important aspect in learning and with the use of modeling and video-tape feedback of practice performance the ST can be given the opportunity to not only engage in a guided observation of his teaching practice, but can also evaluate his own

performance. The teach-reteach procedure which is an integral part of micro-teaching allows the ST to teach, evaluate and immediately refine and reteach the lesson. The experience of viewing oneself in as successful a situation as is possible with the use of video-taping, has a desirable influence on the development of a positive self-concept (59).

In studies conducted by Orme and Purnell (64), the authors studied the role of reinforcement in dealing with classroom situations which had become out-of-control. Suggestions were made for the use of simulated cases presented to STs by means of filmed sequences. Similar use of stimulus films have been employed by Gliessman and others (36) in order to bring relevant experiences of the classroom to the campus. In a study conducted by Miller (60) employing the use of motion pictures and filmstrips there was no significant difference in the level of learning of a college group, however, they scored significantly higher on an attitude evaluation when exposed to motion pictures as opposed to still pictures.

In agreement with the belief that video-taping is not only important but essential to ST awareness and self-evaluation, as reported by Ashlock (12), Allen (2), Cooper (21), and Aubertine (13), Mackey (57) contends that video-tape, not television, is revolutionizing techniques of teacher preparation. Successful use of this medium has been reported by those in language courses (40), music (75), and Industrial Arts (31) as well as in many other areas. Shibata (76) reports the use of video-tape for the improving of teaching practices of experienced teachers. Video-tape has also been used as part of the audio-visual material made available to children in learning carrels, serving as a means of individualizing instruction (70). Krasno and Allen (52) indicate the development

of a data bank of video-tapes and test scores on several measures in preparation of teachers, while Gustavson (38) reports the use of portable video-tape units employed by supervisors in observing STs. These units are easily transportable and can be used with far less disturbance of classroom routine than the larger, more cumbersome studio equipment. Mobile units housed in small vans have also proven a valuable adjunct to the supervision of STs at various teaching centers (50).

Fulton and Rupiper (32) concluded, from a study made to investigate whether vicarious or direct observations of classroom situations were more effective for STs, that vicarious observations through the use of films, tapes, filmstrips and similar materials can be equally effective in the preparation of STs prior to student teaching. The authors felt that many of the problems associated with direct observations, such as limited numbers of observation stations, lack of space and facilities as well as difficulty in focusing of ST attention on specific aspects in the situation without inclusion of extraneous and irrelevant occurrences, could be greatly lessened or completely eliminated through the use of carefully selected audio-visual materials in lieu of direct observations. Utilizing this means of observing classroom situations would not only save time but also eliminate administrative details necessary for the arrangement of classroom observations. There would appear to be a logical justification for the use of video-tape for the recording of observation sequences since unless all members of the group view the same thing, they have no common basis for discussion.

McDonald and Allen (55) found that cue discrimination, or the pointing out of salient points in teaching to which reinforcement should be attached, coupled with positive reinforcement given by the college

supervising teacher to the ST during the playback of the teaching video-tapes was the most effective training method. A study conducted by Joyce, Dirr, and Hunt (45) designed to develop teacher sensitivity to the frame of reference of the learner and including practice and feedback via the use of video-taped sequences of role-playing indicated no significant change in the amount of positive reinforcement or questioning employed. Both of these categories of classroom behavior might be expected to accompany increases in sensitivity on the part of the teacher.

Gage (33) reported a study based on the equilibrium theories of Heider (1946) and Newcomb (1953) related to feedback from pupils to teachers. The experiment was structured in such a manner as to create what Heider (1958) referred to as "imbalance" in the teachers' perceptions of their own behaviors, hypothesizing that a person in such a state of "imbalance" would be motivated to do something to restore a balanced condition, particularly if the teacher held a positive attitude toward the pupils. It was hypothesized that those teachers receiving feedback from Ss would tend to change their behaviors in the direction of S's perceptions of the 'ideal teacher.' Findings in the study supported the notion that those teachers receiving feedback from S perceptions of the 'ideal teacher' tended to change in the direction of the pupils' "ideal" more than those teachers who received no feedback. Bush (20) reports a similar improvement on the part of teachers in their teaching performance when receiving S appraisal in a micro-teaching situation than those receiving no feedback.

Fortune, Cooper and Allen (29), however, found that seventy percent of the STs felt that supervisory feedback was useful while only 24

percent felt that S feedback was of value. Sixty percent of the STs felt that micro-teaching with video-tape feedback was of importance, while only 15 percent of the group felt that this was of little value. In addition, following the use of video-tape in a micro-teaching situation the experimenters became convinced that the most efficient method for evaluation was in viewing only portions of the total lesson presentation with emphasis limited to one or two points.

The fundamental considerations in micro-teaching are consonant with well-established facts within learning theory, in that numerous distributed practice sessions have proven more efficacious than fewer, more extended sessions; immediate feedback through the use of video-tape recording is usually more effective than delayed feedback; immediate opportunity to reteach and change behavior would seem preferable to extended periods of living with a weakness; and lowered anxiety from a low threat situation should be more conducive to learning than a highly threatening situation (5). Meier (59) agrees that spaced or short practices are superior to long massed practices in producing the most effects upon the learner. As a result of scaled-down teaching encounters STs may be immediately made aware of ineffective practices before they become habitual.

Due to its greater effectiveness in product sales modern advertising, especially on television, has long practiced the use of several spot commercials in preference to the same length of time devoted to a single presentation of a product. This might well imply that practice spread over a longer period of time during which the ST learned and developed expertise in recognized teacher competencies might well be superior to one in which massed practice of student teaching is engaged in

over an eight or ten week block as is traditionally done.

Although McNaught (56) recommends a program of long practice for STs which emphasizes a greater cooperation between the preparing institution and the school, Meier (59) opts for the use of micro-teaching in a teach-reteach experience with the use of video-tape feedback. Micro-teaching experiences offer opportunities which allow the overlearning of newer, more desirable behaviors in order to insure their ready availability for future application. In the absence of other models, it is reasonable to expect that STs will tend to teach as they were taught, and if desirable behaviors are not thoroughly overlearned in preteaching practices, the beginning teacher may revert to traditional mechanisms for coping with anxiety-producing situations.

CHAPTER III

PROCEDURE

At the beginning of the 1970 Spring semester a battery of three test instruments were administered to all student teachers majoring in art at Oklahoma State University. The instruments used were the Eisner Art Information Inventory, the Eisner Art Attitude Inventory and the Minnesota Teacher Attitude Inventory. Henceforth these three inventories will be referred to as EAII, the EAAI and the MTAI.

Upon completion of the battery of tests video-taping equipment was shown to the STs and a demonstration of its operation was given and explained. STs were told that occasionally during the semester they would be viewing tapes and that some members of the group would probably not only have an opportunity to learn to operate the equipment, but would also be recording lesson presentations on video-tape. They were then requested to prepare a five-minute lesson presentation on any aspect of their field of art and were given appointments for taping of the lessons. These tapes were preserved and later analyzed and compared with teaching tapes made at the conclusion of the semester.

During the first week all STs engaged in assigned readings, group discussions and a field trip. Similar total group activities were continued throughout each week during the first eight weeks of on-campus classes. By the end of the first week three groups were identified. These groups henceforth will be referred to as Treatment Groups A, B,

and C. Throughout the first eight weeks all STs were assigned observations at the local elementary, junior and senior high schools. They were also given opportunities to observe schools within the communities where they planned to do student teaching. Clock hours for class and out-of-class assignments were approximately equal over the three groups.

Group A was involved in a more or less traditional form of preparation both during the on-campus eight-week period as well as during their eight weeks of supervised student teaching. Beginning the second week of classes and continuing until the end of the first eight weeks each ST in Group A was asked to prepare two five-minute lessons to be presented and critiqued by members of the group. A model lesson plan outline in written form was given to STs in all groups in order to enable them to better plan lessons. During the final week of on-campus classes one lesson which had previously been prepared and critiqued was presented by each member of Group A to STs in all of the groups. These lessons were critiqued by members of all three groups as well as by the university supervisor.

At the conclusion of on-campus classes each ST in Group A was assigned to a four-week student teaching situation at either an elementary or secondary school. Following the first four weeks these STs were reassigned to another situation in order to give them experience in student teaching at both the elementary and secondary levels. Experienced art teachers were selected to act as cooperating teachers in each of the situations. Their experience varied from about three to thirty-six years of public school art teaching.

STs in Group B were also involved in selected readings, group discussions and classroom observations similar to those engaged in by

members of Group A. At the beginning of the second week of classes, and continuing throughout the remaining eight weeks, STs in this group were requested to prepare and present two five-minute lessons per week to members of their group. These lessons were not only critiqued by the group members but also by the university supervisor.

At the conclusion of the fourth week of classes arrangements were made with a local elementary school to allow half of this group (N-2) to present one lesson per week to a class of children. Each class consisted of about 25 to 28 children. This was not critiqued by either the classroom teacher or the university supervisor. A total of four classes of this type were taught by each of these STs prior to their engaging in formal student teaching assignments.

At the end of the first eight weeks on campus the STs in Group B were assigned to student teaching situations at either the elementary or secondary level. The secondary level situations were supervised by experienced art cooperating teachers. All cooperating teachers who supervised STs in Group B, at either the elementary or secondary levels, had from about three to thirty-eight years of public school art teaching experience. Those STs who had been involved in art teaching experiences prior to student teaching were assigned to unsupervised student teaching situations at the elementary level. They were responsible for working with the principal and faculty at the school in planning a program in art, securing supplies and materials and in preparing and teaching lessons to children. The average teaching load for all unsupervised STs was from three to four classes per day. At the conclusion of the eight-week period all STs in the group had student teaching experience at both the elementary and secondary levels.

STs in Group C engaged in assigned readings, group discussions and classroom observations as did those STs in Groups A and B. Following the first week, STs in this group were requested to prepare two five-minute lessons per week which were presented to the other members of the group. These lessons were recorded on video-tape and were critiqued by the group members and the university supervisor. Prior to each lesson preparation written material relating to a specific teaching skill (See Instructional Strategies, pp. 38-45) was distributed and discussed. Tapes modeling the particular skill were also shown. STs were requested to incorporate the skill into lesson presentations for that week.

During each subsequent week a new skill was added and practiced. STs in Group C were asked to try to retain and practice previously learned skills while endeavoring to add a new one to their repertoire. Following each taped lesson session the tape was replayed and stopped periodically in order for particular points to be emphasized.

Arrangements were made at a local elementary school in order to allow each of the STs in Group C to have opportunities to teach small groups of children using lessons which had previously been taped and critiqued. Four lesson presentations were given by each member of this group to a class of from about five to eight children. These lessons took place once a week from the fourth through the eighth week and prior to student teaching.

Upon completion of the eight weeks of on-campus experiences each ST in Group C was assigned to a student teaching situation at either the elementary or secondary level. All secondary level situations were supervised by experienced art cooperating teachers having from about three to thirty-eight years of public school art teaching experience.

In the elementary situations STs were not supervised by a cooperating teacher, but were responsible for planning an art program, securing supplies, teaching lessons and working cooperatively with faculty and administration of the school. The teaching load for these STs was, generally, from three to four classes per day.

All unsupervised STs in Groups B and C were not expected to have responsibilities for homeroom, cafeteria, playground or other similar duties. They were, however, encouraged to attend faculty meetings and other faculty functions. They were also expected to display the work of children completed in their various classes and occasionally help classroom teachers in suggesting ideas for integrating art with other classroom activities as well as developing and installing bulletin boards and displays.

At the completion of the semester all of the STs were again requested to prepare and present a five-minute lesson which was recorded on video-tape. They were also readministered the battery of three test instruments including the EAAI, the EAII, and the MTAI. A period of sixteen weeks had elapsed between the original test administration and video-taping session. A period of eight weeks had elapsed between the end of the ST preparation period on campus and the final post-teaching video-taping session. During the eight-week period of student teaching each ST was observed by the university supervisor on two occasions, once while engaged in student teaching at the elementary level and again while engaged in student teaching at the secondary level. Consultation opportunities, on campus or by telephone, were made available to all STs regardless of their treatment group.

SCHEDULE A

SCHEDULE OF STUDENT TEACHING SEMESTER BY WEEK AND BY STUDENT

<u>WEEK</u>	<u>ACTIVITY</u>	<u>GROUP</u>														
		<u>A</u> <u>-N-5</u>					<u>B</u> <u>-N-4</u>					<u>C</u> <u>-N-5</u>				
		<u>a</u>	<u>b</u>	<u>c</u>	<u>d</u>	<u>e</u>	<u>f</u>	<u>g</u>	<u>h</u>	<u>i</u>	<u>j</u>	<u>k</u>	<u>l</u>	<u>m</u>	<u>n</u>	
1	1. Battery of test instruments--MTAI, EAAI and EAII	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	2. Video-taped preteaching lesson	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	3. Selected readings	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	4. Group discussions	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	5. Field trip--Curriculum Materials Laboratory	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
2	1. Selected readings	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	2. Group discussions	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	3. Classroom observations															
	a. elementary school	x	x	x	x	x										
	b. junior high school						x	x	x	x						
	c. senior high school										x	x	x	x	x	
	4. 2 lesson preparations--practice and critique															
a. peer group	x	x	x	x	x											
b. peer group and university supervisor						x	x	x	x							
c. peer group, university supervisor and video-taped+										x	x	x	x	x		
d. introduction to teaching skill--Set Induction*										x	x	x	x	x		
e. protocol tapes--perceptual set induction model										x	x	x	x	x		
f. symbolic model--written material and verbal explanation										x	x	x	x	x		

*Instructional Strategy--Set Induction B₁

+Student Teacher Evaluation Form--Set Induction, See Appendix A

Schedule A (Continued)

<u>WEEK</u>	<u>ACTIVITY</u>	<u>GROUP</u>		
		<u>A_{N-5}</u> <u>a b c d e</u>	<u>B_{N-4}</u> <u>f g h i</u>	<u>C_{N-5}</u> <u>j k l m n</u>
3	1. Selected readings	x x x x x	x x x x	x x x x x
	2. Group discussions	x x x x x	x x x x	x x x x x
	3. Classroom observations			
	a. elementary school			x x x x x
	b. junior high school	x x x x x		
	c. senior high school		x x x x	
	4. 2 lesson preparations--practice and critique			
	a. peer group	x x x x x		
	b. peer group and university supervisor		x x x x	
	c. peer group, university supervisor and video-taped+			x x x x x
d. introduction to teaching skill-Questioning*			x x x x x	
e. protocol tapes--perceptual questioning model			x x x x x	
f. symbolic model--written material and verbal explanation			x x x x x	
4	1. Selected readings	x x x x x	x x x x	x x x x x
	2. Group discussions	x x x x x	x x x x	x x x x x
	3. Classroom observations			
	a. elementary school		x x x x	
	b. junior high school			x x x x x
	c. senior high school	x x x x x		
	4. 2 lesson preparations--practice and critique			
	a. peer group	x x x x x		
	b. peer group and university supervisor		x x x x	
	c. peer group, university supervisor and video-taped			x x x x x
d. practice all skills to date			x x x x x	

*Instructional Strategy--Questioning B₂

+Student Teacher Evaluation Form--Questioning, See Appendix A

Schedule A (Continued)

WEEK	ACTIVITY	GROUP														
		<u>A</u> N-5					<u>B</u> N-4					<u>C</u> N-5				
		<u>a</u>	<u>b</u>	<u>c</u>	<u>d</u>	<u>e</u>	<u>f</u>	<u>g</u>	<u>h</u>	<u>i</u>	<u>j</u>	<u>k</u>	<u>l</u>	<u>m</u>	<u>n</u>	
5	1. Selected readings	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	2. Group discussions	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	3. Small group teaching--uncritiqued										x	x	x	x	x	
	4. Large group teaching--uncritiqued							x		x						
	5. Professional meetings and reports to total group	x	x	x	x	x	x		x							
	6. Voluntary attendance at professional meetings							x		x	x	x	x	x	x	
	7. 2 lesson preparations--practice and critique															
	a. peer group	x	x	x	x	x										
	b. peer group and university supervisor							x	x	x	x					
	c. peer group, university supervisor and video-taped+											x	x	x	x	x
d. introduction to teaching skill--Reinforcement*											x	x	x	x	x	
e. protocol tapes--perceptual reinforcement model											x	x	x	x	x	
f. symbolic model--written material and verbal explanation											x	x	x	x	x	
6	1. Selected readings	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	2. Group discussions	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	3. Small group teaching--uncritiqued										x	x	x	x	x	
	4. Large group teaching--uncritiqued							x		x						
	5. Classroom observations	x	x	x	x	x	x	x	x	x						
	6. 2 lesson preparations--practice and critique															
	a. peer group	x	x	x	x	x										
	b. peer group and university supervisor							x	x	x	x					
	c. peer group, university supervisor and video-taped+											x	x	x	x	x
	d. introduction to teaching skill--Stimulus variation*											x	x	x	x	x
e. protocol tapes--perceptual stimulus variation model											x	x	x	x	x	
f. symbolic model--written material and verbal explanation											x	x	x	x	x	

*Instructional Strategy--Reinforcement B₃
 +Student Teacher Evaluation Form--Reinforcement, See Appendix A

*Instructional Strategy--Stimulus Variation B₄
 +Student Teacher Evaluation Form--Stimulus Variation, See Appendix A

Schedule A (Continued)

WEEK	ACTIVITY	GROUP														
		<u>A</u> _{N-5}					<u>B</u> _{N-4}					<u>C</u> _{N-5}				
		<u>a</u>	<u>b</u>	<u>c</u>	<u>d</u>	<u>e</u>	<u>f</u>	<u>g</u>	<u>h</u>	<u>i</u>	<u>j</u>	<u>k</u>	<u>l</u>	<u>m</u>	<u>n</u>	
7	1. Selected readings	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	2. Group discussions	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	3. Small group teaching--uncritiqued										x	x	x	x	x	
	4. Large group teaching--uncritiqued							x		x						
	5. Special readings and panel report	x	x	x	x	x	x		x							
	6. 2 lesson preparations--practice and critique															
	a. peer group	x	x	x	x	x										
	b. peer group and university supervisor						x	x	x	x						
	c. peer group, university supervisor and video-taped										x	x	x	x	x	
	d. practice all skills to date										x	x	x	x	x	
8	1. Selected readings	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	2. Group discussions	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	3. Small group teaching--uncritiqued										x	x	x	x	x	
	4. Large group teaching--uncritiqued							x		x						
	5. Teach lesson to total group	x	x	x	x	x										
	6. 2 lesson preparations--practice and critique															
	a. peer group	x	x	x	x	x										
	b. peer group and university supervisor						x	x	x	x						
	c. peer group, university supervisor and video-taped										x	x	x	x	x	
	d. introduction to teaching skill--Closure*										x	x	x	x	x	
	e. protocol tapes--perceptual closure model										x	x	x	x	x	
	f. symbolic model--written material and verbal explanation										x	x	x	x	x	

*Instructional Strategy--Closure B₅

+Student Teacher Evaluation Form--Closure, See Appendix A

Schedule A (Continued)

<u>WEEK</u>	<u>ACTIVITY</u>	<u>GROUP</u>														
		<u>A_{N-5}</u>					<u>B_{N-4}</u>					<u>C_{N-5}</u>				
		<u>a</u>	<u>b</u>	<u>c</u>	<u>d</u>	<u>e</u>	<u>f</u>	<u>g</u>	<u>h</u>	<u>i</u>	<u>j</u>	<u>k</u>	<u>l</u>	<u>m</u>	<u>n</u>	
9-15	1. 4 weeks--elementary school--supervised	x	x	x	x	x										
	2. 4 weeks--junior high school--supervised				x	x										
	3. 4 weeks--senior high school--supervised	x		x		x										
	4. 4 weeks--elementary school--supervised						x		x							
	5. 4 weeks--junior high school--supervised						x								x	
	6. 4 weeks--senior high school--supervised							x		x						
	7. 4 weeks--elementary school--unsupervised							x		x		x	x	x	x	
	8. 4 weeks--junior high school--supervised								x			x				
	9. 4 weeks--senior high school--supervised												x	x	x	
16	1. Battery of test instruments--MTAI, EAAI and EAI	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	2. Video-taped post-teaching lessons	x	x	x	x	x	x	x	x	x	x	x	x	x	x	

INSTRUCTIONAL STRATEGY - B₁

SET INDUCTION

Set induction refers to the establishing of cognitive rapport with pupils in order to obtain involvement. The creation of a positive set usually increases the possibility of pupil involvement in the lesson. This skill often employs the use of a dramatic form of introduction to create interest and develop motivation.

Following are some possible suggestions which might be used in order to better establish set for a lesson:

1. Use of a dramatic introduction: Lesson on mixing colors.
Expl. The teacher appears before a third or fourth grade class dressed as a magician with a top hat, cap, etc. On the table are glass jars filled with colored water (food coloring). Selecting two jars, a yellow and a blue one the teacher asks what colors these jars contain.
Children in unison--"Yellow and blue".
Teacher--"Are you very certain?"
Selecting an empty jar, and with much wand waving and fanfare, (it also helps to mutter some magic words) the teacher pours the two colored liquids into the third jar. Result--GREEN.
Children--"How did you do it?" "Show us the trick!" Teacher proceeds to introduce paint mixing.
2. Use of simple to complex examples: Lesson on printmaking.
Expl. A sun print is much like a photogram, but a much simpler form. In both the principle of light source, distance and time are important factors. In a sun print attach an object to a piece of colored construction paper and place materials in the sun for a period of time. When the object is removed the form will be apparent due to the sun's fading effect upon the exposed portion of the paper. In producing photograms a light-sensitive paper is used. Objects placed on the photographic paper are exposed to a light source of given quantity and known distance for a specific period of time. With the use of developer, stop-bath and fixer the process is completed.
3. Use of analogies: Figure drawing compared to a landscape.
Expl. A figure drawing is like a landscape in that you are concerned with highlights and shadows; the variations in

color; textures; and contour variations. In fact, a figure drawing is sometimes referred to as a human landscape.

4. Occasions for employing set induction:

Set induction might be appropriate to use after any break, overnight, over a weekend or after a vacation. Set induction might also be employed at the beginning of a unit; before a discussion; prior to a field trip; when giving an out-of-class assignment; before a panel discussion or pupil reports or as a preliminary to a film, filmstrip, audio tape or other audiovisual material.

INSTRUCTIONAL STRATEGY - B₂

QUESTIONING

Questioning is often used as a means for obtaining information, encouraging pupils to analyze a situation, to stimulate imagination and to assist in decision-making. Good questioning techniques on the part of the teacher tend to cause pupils to become involved and require them to think. Thinking is basic to learning.

Following are some suggestions to consider in using this skill:

1. Before questioning pupils establish procedures for answering. The suggestion to, "Raise your hand if you can answer the question" can often avoid the confusion created when several pupils shout out an answer at the same time. This is particularly appropriate when working with pupils at the elementary level.
2. Structure questions so they require more than a "yes" or "no" response.
3. Structure questions so they are not vague and impossible to answer.
4. Ask a question, pause for a few seconds to allow even the slower pupil to formulate an answer, then call on a pupil. When a pupil's name is called prior to asking a question some pupils immediately "turn off" the teacher knowing that they will not be responsible for responding to the question.
5. Call on both volunteers and non-volunteers randomly so pupils will realize that everyone needs to think, not just the volunteers.
6. Ask for sets or groups of information when framing information level questions.
7. Frame questions to require pupils to use higher cognitive processes of synthesis, analysis and evaluation.
8. Rather than always just accepting the answer to a question, even though it is acceptable, redirect the question to another pupil by saying, "What can be added to this evaluation of the (painting, sculpture piece, etc.)" or "Jim! Do you agree with what Betty said regarding the mood of this painting or do you feel that there is a different emotional impact expressed?"

9. Refocus pupil's attention by saying, "Alright, now that we have examined the style of this painter, let us look at the painting from a (social, political, historical or psychological) point of view. What was the social structure of the time?"
10. When a pupil is unable to answer a question immediately, refrain from giving him the answer. Pause to allow him time to think, then restate the question in a slightly different manner.
11. Avoid the over-use of rhetorical questions. Judiciously employed an occasional rhetorical question may be of value. The over-use of this kind of question, however, leads to student non-involvement. Non-involvement eventually results in students who cease to think.
12. Refrain from repeating a question or answer. Instead ask if someone can tell the class what the question or answer was about. This helps to involve pupils in the learning process and is an indirect means of saying, "You should listen more carefully or you will not understand what is going on." This also enables the teacher to determine whether other pupils are also confused concerning the matter.
13. When pupils initiate questions occasionally try to direct them to a source whereby they can discover their own answers rather than giving them answers to all questions. However, be sure to know the answer yourself or pupils will soon conclude that this is just the teacher's way of evading the question.

INSTRUCTIONAL STRATEGY - B₃

REINFORCEMENT

It is preferable to respond to pupils in a positive manner even if it is necessary to later follow this with the correction or questioning of an act, product or statement.

Following are some suggestions for giving positive reinforcement as well as negative reinforcement behaviors to avoid:

1. Positive non-verbal reinforcement:

- a. nod affirmatively to indicate approval.
- b. smile to indicate acceptable actions or statement of the pupil.
- c. move toward pupil to establish feeling of closeness.
- d. keep eyes on the pupil during conversation in order not to appear bored or lost in thought not pertaining to the subject at hand.
- e. write pupil's response on the chalkboard indicating correctness.
- f. put arm around pupil's shoulders, when appropriate, especially at the elementary level.
- g. put hand on pupil's arm or shoulder in a friendly way.
- h. form thumb and forefinger into a circle to indicate approval.
- i. give a "thumbs-up" gesture, signifying satisfaction.

2. Positive verbal reinforcement:

- a. respond to pupil's correct contributions with words such as "fine", "good", "excellent", "correct" and "wonderful".
- b. use pupil's name in calling upon him, as well as prior to indicating acceptance of response.
- c. respond to pupils by using a cheerful, enthusiastic tone of voice.

Following are negative responses which should be avoided or rarely if ever employed:

1. Negative non-verbal reinforcement:

- a. scowling or frowning to show displeasure with pupil's action or statement.
- b. moving away from a pupil, implying that proximity is unpleasant.
- c. staring at the floor or ceiling and appearing bored when a pupil is responding.

2. Negative verbal reinforcement:

- a. displaying expressions of annoyance or impatience by sighing, grunting or snorting.
- b. responding to pupil's contributions with words such as "no", "wrong" or "that's not right".
- c. calling a pupil "stupid", "dumb" or using other verbal means of lowering a pupil's self-esteem.

INSTRUCTIONAL STRATEGY - B₄

STIMULUS VARIATION

Changing the stimulus is generally a means of obtaining higher attention levels. Attending behavior is a prerequisite to learning.

Following are some suggestions for obtaining and maintaining attention:

1. Teacher movement: During the teaching situation move to the left or right of the teaching space. Occasionally move into or behind the pupils.
2. Teacher gestures: To make a point more emphatic or to give added meaning to a portion of the lesson, use head, body and hand movements. These should be appropriate for the idea being expressed.
3. Verbal or non-verbal focusing: To emphasize a point verbally say, "Listen closely", "Notice this" or "This is important". To emphasize a point non-verbally, point at an object in question and tap on the chalkboard. Use a combination of gestural and verbal acts.
4. Interactions: Use different forms and combinations of interactions such as teacher-pupil, teacher-group, pupil-pupil or role playing.
5. Pausing: Pause after making a point so pupils may think, write or ask questions. Do not rush on immediately.
6. Oral-visual switching: Use words on the chalkboard, objects, pictures and models in order that pupils find it necessary to look to get information. Do not repeat a word verbally, require the pupil to look.

INSTRUCTIONAL STRATEGY - B₅

CLOSURE

Closure has been reached when the major goals and objectives of the lesson or portion of the lesson are judged to be satisfied in such a manner as to insure that new knowledge can be related to previously learned material.

Following are some suggested means of achieving closure:

1. The teacher provides consolidation of concepts and ideas which are covered before moving to subsequent learning.
2. The teacher reviews the major points and ideas throughout the lesson.
3. The teacher makes connections between previously known material, currently presented material, and future learning.
4. The teacher allows pupils the opportunity to demonstrate what they have learned, e.g., provides for pupil summary or pupil practice of new learning.
5. The teacher, or pupils, summarize the class discussion including the major points which were covered by the teacher and the class.

CHAPTER IV

PRESENTATION OF THE RESULTS

Referring to the MTAI manual, the authors indicate the establishment of both validity and reliability of the measure, giving a reliability coefficient of .93. However, to further confirm the test reliability, the test instrument was administered on two occasions, once at the beginning of the semester and once at the conclusion of the semester, using the present study population. (See Table I) Data is given for the total group as well as for the three sub-groups A, B, and C. A Spearman rank-difference coefficient of correlation was employed.

TABLE I

MINNESOTA TEACHER ATTITUDE INVENTORY--PRE AND POST-TEST MEANS, STANDARD DEVIATIONS AND COEFFICIENTS OF CORRELATION BY TOTAL AND SUB-GROUPS

Group	N	Pre-Test \bar{X}	S.D.	Post-Test \bar{X}	S.D.	ΣD	ΣD^2	rho
A	5	29.2	23.88	14.4	25.40	4.0	4.0	.800
B	4	40.25	20.69	13.8	10.50	2.0	2.0	.800
C	5	33.4	18.67	21.2	12.73	1.0	.5	.975
TOTAL	14	33.9	21.68	16.6	18.2	29.0	124.0	.725

In scoring the MTAI two special "rights"- "wrongs" keys were provided by the test maker for use with students without professional

teaching experience. The tests were hand scored by placing the "rights" key over each answer sheet and counting and recording the number of marks which appeared in the openings of the key. The "wrongs" key was then placed over each answer sheet and the scoring process was repeated. The attitude score is the difference between the "rights" and "wrongs."

The first hypothesis states that there will be no significant difference in the attitude toward teaching of STs having teaching experience with children prior to student teaching (TE_1) as opposed to those not having teaching experience prior to student teaching (TE_2). This hypothesis was tested by computing the MTAI mean gain score between the first administration of the inventory, at the beginning of the semester, and the mean gain score of the second administration of the inventory at the conclusion of the sixteen-week semester. Half of Group B (N-2) did not have teaching experience while the remaining students in the group (N-2) did have teaching experience prior to student teaching. None of the STs in Group A had teaching experience prior to student teaching whereas all of the STs in Group C engaged in teaching experiences prior to student teaching. (See Table II)

TABLE II

MINNESOTA TEACHER ATTITUDE INVENTORY--PRE AND POST-TEST MEANS,
STANDARD DEVIATIONS AND GAIN SCORE MEANS BY TEACHING
EXPERIENCE (TE_1) AND NON-TEACHING EXPERIENCE (TE_2)
GROUPS

Group	N	Pre-Test \bar{X}	S.D.	Post-Test \bar{X}	S.D.	Gain Score \bar{X}	SIG.
TE_1	7	29.571	17.036	17.29	12.89	-12.285	U=.191 ns
TE_2	7	40.571	24.758	16.00	22.26	-22.142	

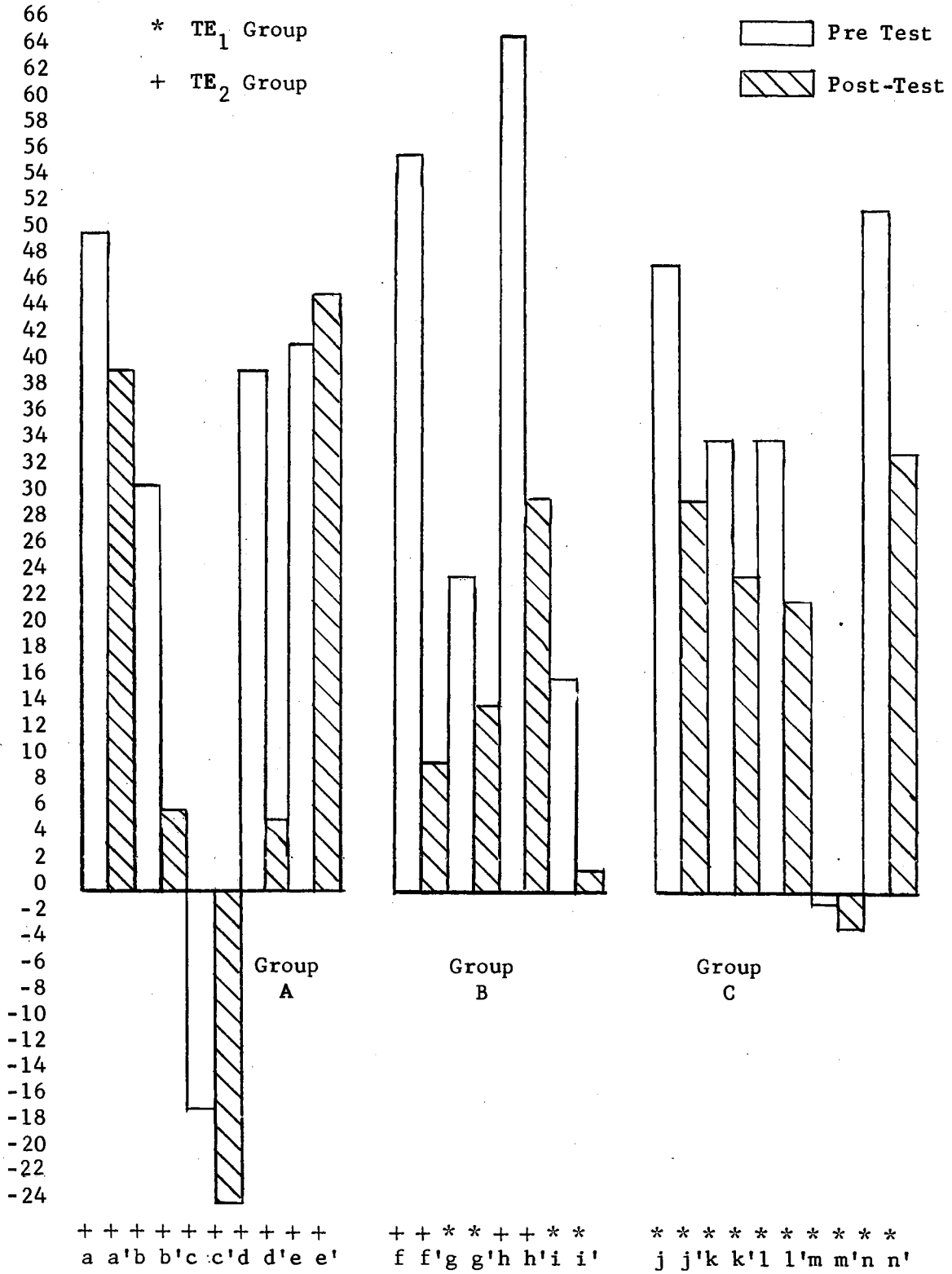
Only one ST in the study showed a positive gain score on the MTAI between the first and second administrations of the inventory. All other STs showed scores of from 2 to 46 points in the opposite direction. (See Graph C₁). However, there was an 80% greater attitude score loss on the MTAI by the group having two supervised student teaching situations and no art teaching experiences prior to student teaching over those having teaching experience prior to student teaching and one unsupervised student teaching experience. The mean loss of the group having teaching experience was -12.286 points whereas those not having teaching experience with children prior to student teaching showed a mean score loss of -22.143.

Since the attitude mean gain (loss) score of the TE₁ group was not significantly less statistically than the attitude mean gain (loss) score of the TE₂ group, the H₀ may not be rejected. In view of the limitations of this study the conclusion is that these data do not support the hypothesis that teaching experience prior to student teaching will cause a significant improvement in attitude of STs toward teaching.

The second hypothesis states that there will be no significant difference in the performance of STs as a result of the type of modeling behavior and feedback to which they are exposed prior to student teaching. To test this hypothesis the video-taped lessons recorded at the beginning and conclusion of the semester were spliced together in a random sequence and then observed and scored by two evaluation teams on different evenings one week apart. On each occasion fourteen lessons were observed and scored. Since recorded lesson presentations were of unequal length, the frequency of occurrence of each teaching behavior was determined by summing the tallies reported by each evaluation team

GRAPH C₁

MINNESOTA TEACHER ATTITUDE INVENTORY
PRE AND POST-TEST SCORES BY STUDENT



member for each observed skill, computing a mean score and dividing the number of seconds per lesson by each skill mean score. This resulted in a score which could be ranked and statistically analyzed. (See Table III)

Employing a one-way analysis of variance by ranks, two of the teaching skills proved to be significant. These were skills of questioning and reinforcement. (See Table IV) An $H \geq 8.10$ has probability of occurrence under the null hypothesis of $p = .010$. From the data presented, the conclusion is that the H_0 may be rejected in favor of the H_1 . The second significant finding was for the teaching skill of reinforcement. An $H \geq 6.5$ has probability of occurrence under the null hypothesis of $p = .049$. Since the probability is smaller than $p = .05$ the H_0 may be rejected in favor of the H_1 .

As a further analysis of the teaching skills of questioning and reinforcement the three groups were studied in order to discover whether a significant difference could be discovered between Groups A and B; Groups A and C and Groups B and C. Applying a Mann-Whitney U Test it was discovered that on the skill of questioning there was a significant difference between Groups A and C at $p = .008$ level. Between Groups A and B there was a difference at $p = .056$ level. There was no significant difference, however, between Groups B and C on this measure. (See Table V)

TABLE V
ANALYSIS OF TEACHING SKILL OF QUESTIONING BY GROUPS

Group	N	Σ Ranks	SIG.	Group	N	Σ Ranks	SIG.
A	5	16	U=.008	A	5	18	U=.056
C	5	39		B	4	27	

~~TABLE III~~

PRE AND POST-TEST TEACHING SKILL FREQUENCIES BY GROUPS

Group	N	Pre Test	Post Test	Pre Test	Post Test	Pre Test	Post Test	Pre Test	Post Test	Pre Test	Post Test
		TS-10 \bar{X}	TS-10 \bar{X}	TS-20 \bar{X}	TS-20 \bar{X}	TS-30 \bar{X}	TS-30 \bar{X}	TS-40 \bar{X}	TS-40 \bar{X}	TS-50 \bar{X}	TS-50 \bar{X}
A	5	.0	.6	.0	.4	0	1.2	1.2	2.8	.4	1.0
B	4	.25	1.0	.25	7.0	0	6.75	1.5	4.0	1.0	.75
C	5	.0	1.0	.0	13.4	0	13.4	1.2	3.0	.4	1.0

Teaching Skill No. 10 = Set Induction; 20 = Questioning; 30 = Reinforcement; 40 = Stimulus Variation
50 = Closure

TABLE IV

POST-TEST VIDEO-TAPE EVALUATION OF SELECTED TEACHING SKILLS

Group	N	Σ Ranks	Questioning		SIG.	Reinforcement		SIG.	Stimulus Variation		SIG.	
			H			H			H			
A	5	17			.010	19		.049	33		ns	
B	4	34	8.10			34	6.5			36		.737
C	5	54				52				36		

The teaching skill of reinforcement was also analyzed among groups with the result that there was discovered a significant difference at p. .016 level between Groups A and C, and at p. .032 level between Groups A and B. (See Table VI).

TABLE VI
ANALYSIS OF TEACHING SKILL OF REINFORCEMENT BY GROUPS

Group	N	Σ Ranks	SIG.	Group	N	Σ Ranks	SIG.
A	5	17	U=.016	A	5	17	U=.032
C	5	38		B	4	26	

In view of these findings it can be concluded that the type of modeling behavior and feedback to which STs are exposed prior to student teaching can make a significant difference in their classroom performance. All other skills showed no significant difference.

In order to establish inter-rater agreement on specific teaching skills evaluators were provided with instruction sheets similar to those given to STs, (See Instructional Strategies, pages 38-45), as well as verbal instructions relating to the use of scoring sheets for the recording of observed behaviors. (See Appendix B). Several sample videotapes were used as training measures in order to insure inter-rater agreement. Evaluators were then instructed to record a tally for each occurrence of the specific teaching skill as it was observed on the replay of sample video-taped lessons.

Inter-rater agreement on evaluation of the pre-test tapes was

fairly high due to the absence or infrequent appearance of the teaching skills as identified in this study. (See Table VII)

TABLE VII
PRE-TEST INTER-RATER AGREEMENT ON
SELECTED TEACHING SKILLS

Set Induction \bar{X}	Questioning \bar{X}	Reinforce- ment \bar{X}	Stimulus Variation \bar{X}	Closure \bar{X}	Total \bar{X}
100.0	95.55	100.0	84.4	100.0	95.55

Since there was no significant difference among the three groups for ST acquisition of the skills of Stimulus Variation, Set Induction, and Closure, inter-rater agreement on these teaching skills is not included for post-test tapes. (See Table VIII)

TABLE VIII
POST-TEST INTER-RATER AGREEMENT ON
SELECTED TEACHING SKILLS

	s	W	χ^2	SIG.
Questioning	2006.5	.980	38.22	.001
Reinforcement	1998.0	.976	38.06	.001
df=13				

To test inter-rater agreement the measure employed was the Kendall Coefficient of Concordance: W. In testing the significance of W the

value of x^2 was computed using the formula $x^2 = k(N-1)W$.¹ From this data it can be concluded that inter-rater agreement related to skill in questioning and reinforcement is high.

The third hypothesis states that there will be no significant difference in art knowledge gained by STs as a result of their preparation prior to student teaching. In order to test this hypothesis the Eisner Art Information Inventory was administered at the beginning and conclusion of the semester. (See Tables IX and X, page 55). The data includes means and standard deviations for each of the groups by total and by subtest. Using pre and post-test data the reliability of this measure was confirmed. (See Table XI).

TABLE XI

EISNER ART INFORMATION INVENTORY--PRE AND POST-TEST
MEANS AND COEFFICIENTS OF CORRELATION BY TOTAL
AND BY SUB-GROUPS

Group	N	Pre-Test \bar{X}	Post-Test \bar{X}	ΣD	ΣD^2	rho
A	5	56.2	56.0	2	1.0	.9917
B	4	54.8	56.3	1	.5	.9524
C	5	54.6	55.8	2	2.0	.9000
TOTAL	14	55.21	56.0	26	78.5	.8275

¹Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences (New York: McGraw-Hill Book Company, Incorporated, 1965), p. 237.

TABLE IX

EISNER ART INFORMATION INVENTORY--PRE-TEST WITH MEANS AND STANDARD DEVIATIONS FOR GROUPS
BY TOTAL AND SUBTESTS

Group	N	\bar{X}	SD	ST-1 \bar{X}	ST-1 SD	ST-2 \bar{X}	ST-2 SD	ST-3 \bar{X}	ST-3 SD	ST-4 \bar{X}	ST-4 SD
A	5	56.2	1.16	14.0	.89	14.8	.40	13.6	.80	13.8	.74
B	4	54.8	2.48	13.0	1.41	15.0	.0	13.25	.83	13.5	7.98
C	5	54.6	4.62	13.8	1.47	15.0	.0	13.0	2.53	12.8	1.17
TOTAL	14	55.21	3.23	12.857	1.554	14.929	.258	14.286	1.9431	13.357	2.205

TABLE X

EISNER ART INFORMATION INVENTORY--POST-TEST WITH MEANS AND STANDARD DEVIATIONS FOR GROUPS
BY TOTAL AND SUBTESTS

Group	N	\bar{X}	SD	ST-1 \bar{X}	ST-1 SD	ST-2 \bar{X}	ST-2 SD	ST-3 \bar{X}	ST-3 SD	ST-4 \bar{X}	ST-4 SD
A	5	56.0	1.788	14.2	.748	14.8	.40	13.6	.490	13.4	1.744
B	4	56.25	2.861	14.3	1.30	15.0	.0	13.25	1.09	13.8	.83
C	5	55.8	2.993	14.6	.489	14.2	1.60	13.2	2.227	13.8	.979
TOTAL	14	56.0	2.591	14.36	.895	14.64	1.0424	13.36	1.493	13.6	1.287

There was no significant difference among Groups A, B, and C at the beginning or the conclusion of the semester with regard to art information. (See Table XII) There was also no significant difference in the three groups as indicated by gain scores over the period of sixteen weeks. (See Table XIII)

Analysis of the data related to the gain scores of the TE₁ and the TE₂ groups showed a statistically significant difference at a p. .049 level. (See Table XIV)

TABLE XIV

EISNER ART INFORMATION INVENTORY--PRE AND POST-TEST
MEANS AND GAIN SCORES BY TEACHING EXPERIENCE (TE₁)
AND NON-TEACHING EXPERIENCE (TE₂) GROUPS

Group	N	Pre-Test \bar{X}	Post-Test \bar{X}	Gain Score \bar{X}	SIG.
TE ₁	7	54.285	56.0	12	p. .049
TE ₂	7	56.14	56.0	-1	

Since there was evidence to prove a statistically significant difference existed in art knowledge gained by STs the H₀ may be rejected. It must be concluded that data does support the hypothesis that there will be a difference in art knowledge of STs as a result of their preparation prior to student teaching.

The fourth hypothesis states that there will be no significant difference in the attitudes of student teachers toward art as a result of the method of preparation engaged in prior to student teaching. To test this hypothesis the Eisner Art Attitude Inventory was administered to all art majors in student teaching at the beginning and conclusion of

TABLE XII

EISNER ART INFORMATION INVENTORY--PRE AND POST-TEST VARIANCE AMONG GROUPS

Group	N	Pre-Test \bar{X}	Σ Ranks	SIG.	Post-Test \bar{X}	Σ Ranks	SIG.
A	5	56.2	43		56.0	38.0	
B	4	54.8	25	ns H=.671	58.3	30.5	ns H=-.0160
C	5	54.6	3		55.8	36.5	

TABLE XIII

EISNER ART INFORMATION INVENTORY GAIN SCORE VARIANCE AMONG GROUPS

Group	N	Pre-Test \bar{X}	Post-Test \bar{X}	Gain Score \bar{X}	Σ Ranks	SIG.
A	5	56.2	56	0	29.0	
B	4	54.8	58.25	1.5	35.5	ns H=1.3259
C	5	54.6	55.8	1.2	40.5	

the semester. Data related to this test measure is given on page 59 (See Tables XV and XVI). Using data gathered from the test inventory administrations test reliability was confirmed. (See Table XVII).

TABLE XVII

EISNER ART ATTITUDE INVENTORY--PRE AND POST-TEST MEANS AND COEFFICIENTS OF CORRELATION BY TOTAL AND BY SUB-GROUPS

Group	N	Pre-Test \bar{X}	Post-Test \bar{X}	ΣD	ΣD^2	rho
A	5	243.2	246.4	2	2.0	.900
B	4	244.5	246.5	2	2.0	.900
C	5	234.2	243.4	3	2.5	.875
TOTAL	14	240.36	245.4	23	56.0	.877

There was no significant difference among the three groups on either the pre or post-test measures related to art attitude. (See Table XVIII)

TABLE XVIII

EISNER ART ATTITUDE INVENTORY--PRE AND POST-TEST VARIANCE AMONG GROUPS

Group	N	Pre-Test \bar{X}	Σ Ranks	SIG	Post-Test \bar{X}	Σ Ranks	SIG
A	5	243.2	41		246.4	38.5	
B	4	244.5	35	H=1.2881 ns	246.5	32.5	H=.207 ns
C	5	234.2	29		243.4	34.0	

TABLE XV

EISNER ART ATTITUDE INVENTORY--PRE-TEST WITH MEANS AND STANDARD DEVIATIONS FOR GROUPS
BY TOTAL AND SUBTESTS

Group	N	\bar{X}	SD	ST-1 \bar{X}	ST-1 SD	ST-2 \bar{X}	ST-2 SD	ST-3 \bar{X}	ST-3 SD	ST-4 \bar{X}	ST-4 SD
A	5	243.2	7.884	65.4	3.720	59.0	4.195	59.4	2.870	59.4	2.870
B	4	244.5	14.807	61.8	4.815	59.5	8.617	60.8	3.491	62.5	2.062
C	5	234.2	14.386	62.6	4.317	58.6	10.012	54.4	4.673	58.6	8.381
TOTAL	14	240.36	13.345	63.36	4.545	59.0	7.964	58.0	4.660	60.0	5.398

TABLE XVI

EISNER ART ATTITUDE INVENTORY--POST-TEST WITH MEANS AND STANDARD DEVIATIONS FOR GROUPS
BY TOTAL AND SUBTESTS

Group	N	\bar{X}	SD	ST-1 \bar{X}	ST-1 SD	ST-2 \bar{X}	ST-2 SD	ST-3 \bar{X}	ST-3 SD	ST-4 \bar{X}	ST-4 SD
A	5	246.4	15.603	67.0	4.147	63.4	6.741	61.8	3.868	54.2	7.521
B	4	246.5	13.829	64.8	5.584	62.3	5.117	61.3	4.323	68.3	2.586
C	5	243.4	14.596	64.6	3.262	61.4	6.375	56.8	5.845	60.6	2.332
TOTAL	14	245.36	14.336	65.5	4.484	62.36	6.286	59.86	5.303	57.64	5.614

Although there was no statistically significant gain in attitude toward art, as indicated by scores on the Eisner Art Attitude Inventory, Group C did show a greater mean gain score than did either of the other two groups. (See Table XIX)

TABLE XIX

EISNER ART ATTITUDE INVENTORY--PRE AND POST-TEST
MEAN GAIN SCORES VARIANCE AMONG GROUPS

Group	N	Pre-Test X	Post-Test X	Gain Score X	Σ Ranks	SIG
A	5	243.2	246.4	3.2	34	H=2.53 ns
B	4	244.5	246.5	2.0	22	
C	5	234.2	243.4	9.2	49	

Since it was felt that there might be some correlation between gain scores of STs on the Art Attitude Inventory and rank in teaching proficiency, investigation was made to determine whether this was actually true. Since data gathered does not support this hypothesis it must be concluded that, in this study, the method of preparation of STs prior to student teaching does not significantly affect attitudes toward art. (See Tables XX and XXI, page 61)

TABLE XX

EISNER ART ATTITUDE INVENTORY - QUESTIONING SKILL RANK, MEAN GAIN SCORES
AND COEFFICIENTS OF CORRELATION BY TOTAL AND BY SUB-GROUPS

Group	N	Pre-Test \bar{X}	Post-Test \bar{X}	Gain Score \bar{X}	ΣD	ΣD^2	rho	SIG.
A	5	243.2	246.4	3.2	9	19.50	.025	ns
B	4	244.5	246.5	2.0	8	20	-1.0	ns
C	5	234.2	243.4	9.2	6	10	.500	ns
TOTAL	14	240.36	245.4	5.0	133	406.5	.107	ns

TABLE XXI

EISNER ART ATTITUDE INVENTORY - REINFORCEMENT SKILL RANK, MEAN GAIN SCORES
COEFFICIENTS OF CORRELATION BY TOTAL AND BY SUB-GROUPS

Group	N	Pre-Test \bar{X}	Post-Test \bar{X}	Gain Score \bar{X}	ΣD	ΣD^2	rho	SIG.
A	5	243.2	246.4	3.2	9	20.5	-.025	ns
B	4	244.5	246.5	2.0	6	18.0	.10	ns
C	5	234.2	243.4	9.2	8	16.0	-.8	ns
TOTAL	14	240.36	245.4	5.0	74	577.5	-.269	ns

CHAPTER V

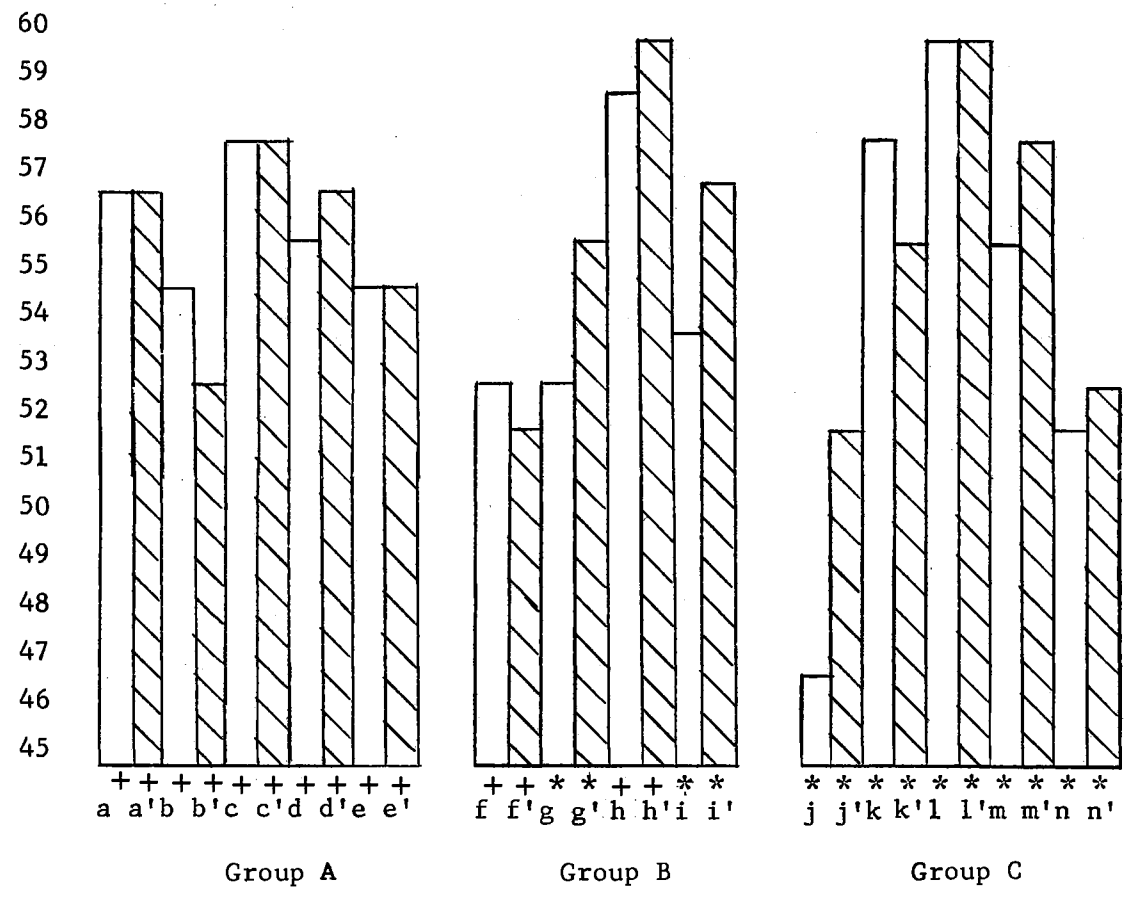
FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was fourfold. First, an attempt was made to discover whether the achievement of a higher level of knowledge in the field of art would result from assigning STs to unsupervised teaching situations in which they were required to be more dependent upon their own resources and less dependent upon the knowledge and experience of a cooperating teacher. It was theorized that even the average or less capable student, when faced with a situation requiring initiative and self reliance, would find it imperative to become more cognizant concerning the field of study he was teaching.

To ascertain the increase in art knowledge the Eisner Art Information Inventory was selected as a test instrument. The findings indicate that there was a statistically significant difference in the TE₁ and TE₂ Groups on this measure at the $p < .05$ level. Although this difference may have been influenced by art teaching experiences engaged in prior to student teaching, there is even more reason to believe that this difference was the result of four weeks of unsupervised student teaching. It is recommended that further study be conducted with a larger population and that unsupervised student teaching experiences be made available both at the elementary and secondary levels. (See Graph C₂)

The second purpose of the study was to discover whether an increased positive attitude toward art would result from earlier exposure

GRAPH C₂
 EISNER ART INFORMATION INVENTORY
 PRE-TEST POST-TEST
 BY STUDENT



Pre-Test
 Post-Test
 * TE₁ Group
 + TE₂ Group

of STs to unsupervised experiences in teaching children. The rationale for this was based on the assumption that an art-oriented population, unaffected by traditional approaches to teaching art and uninfluenced by imagined limitations, would become more creatively involved and result in an increased positive attitude toward art.

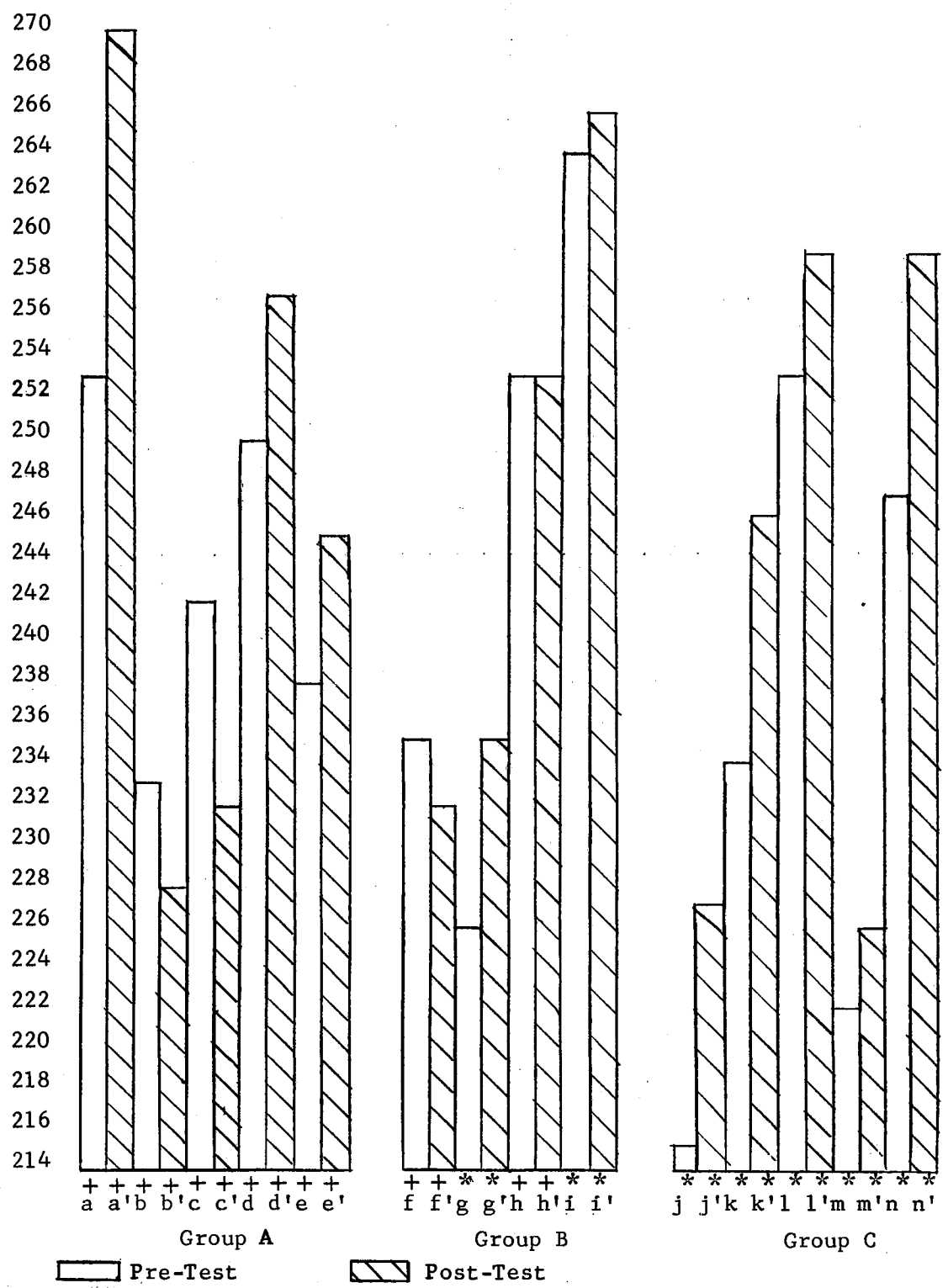
As a test instrument, the Eisner Art Attitude Inventory was selected. Although results of the study showed no statistically significant evidence to support this thesis, the findings did indicate that over 57% of the TE₂, non-teaching experience, group had either no change in score on this measure or gave evidence of a decrease in score. On the otherhand, no member of the TE₁, teaching experience, group maintained the same score at the end of the semester. All showed increases from 2 to 12 score points. (See Graph C₃)

It is recommended that further study with a larger population of art majors and an extended period of time spent in teaching experiences prior to student teaching might give more conclusive evidence to support the contention that early experience in contact with children in an unsupervised teaching situation will, in fact, produce an increase in positive attitude toward art.

The third purpose of this study was to investigate whether STs exposed to early contact with children and an unsupervised student teaching situation would give evidence of a more positive attitude toward teaching than those not having similar experiences. Here again it was hypothesized that STs given an opportunity to become involved with children in an art teaching situation, unencumbered by negatively influenced limitations, would enjoy a higher level of satisfaction with the experience than those STs exposed only to traditionally supervised

GRAPH C₃

EISNER ART ATTITUDE INVENTORY
 PRE-TEST POST-TEST
 BY STUDENT



* TE₁ Group + TE₂ Group

situations in which they frequently are not provided opportunities to experiment freely.

To test this hypothesis the Minnesota Teacher Attitude Inventory was employed. Since the test authors had indicated, in the test manual, that there was a tendency on the part of new teachers, after six months of experience, to show a decrease in score, this outcome was not entirely surprising in the present study. Although the test results did not indicate a statistically significant difference between the TE₁ and the TE₂ Groups, there was an 80% greater mean score loss on the part of the TE₂ Group over that of the TE₁ Group. It must be remembered that all STs in the TE₁ Group, although having only limited teaching experience prior to student teaching also had one student-teaching experience of four weeks in an unsupervised situation.

The recommendation in this instance would be for further study employing a larger sample of STs with both elementary and secondary student teaching situations being unsupervised. Opportunities for consultation with an experienced teacher in the field of art and a reduced teaching load should be continued.

The fourth purpose of this study was to determine whether the preparation of art teachers could be so designed as to produce a greater mastery of teaching skill. As a test measure video-tape recordings of lessons made at the beginning of the semester, in order to determine the level of skill in teaching possessed by the STs, were compared with video-taped lessons at the conclusion of the semester following student teaching.

The beginning tapes revealed little use of set induction on the part of Group B and no use of the skill by either Group A or C.

Although closure was evident in the initial teaching tapes, the increase in this skill was not significant. Groups A and C showed evidence of minimal use of this skill at the beginning of the semester while both groups used this skill equally well at the conclusion of the semester.

Questioning of students was not evident at the beginning of the semester with either Groups A or C and only minimally with Group B. However, by the end of the semester all STs in Group B were using some questioning in their teaching while all STs in Group C were involving students to a high degree by the use of questioning. This was at a statistically significant level of $p < .01$. At the conclusion of the semester only one ST in Group A used any questioning.

Some stimulus variation was employed by all students at the beginning of the semester. By the conclusion of the semester all STs had increased to some degree in the ability to use this teaching skill. However, there was no statistically significant difference in the groups and very little actual difference was evident.

At the beginning of the semester no ST in any of the three groups showed evidence of skill in reinforcing children. By the end of the semester there was slight evidence of this skill employed by two STs in Group A, fairly good use of the skill by all but one ST in Group B and excellent use of the skill by STs in Group C. This proved to be significant at a $p < .05$.

Inter-rater agreement was high on the skills of questioning and reinforcement. This was evidenced at a significance level of $p < .001$.

From the findings of this study it would appear that STs can develop teaching skills to a high degree, prior to entering student teaching, and that these skills will not diminish appreciably or become

extinguished even after a period of at least several months. It would seem reasonable to conclude at this point that perceptual modeling and video-tape feedback of teaching skills can create a marked improvement in ST classroom performance.

It is recommended that additional consideration be given to this aspect of the study and that continued research using a larger population be undertaken. It is further recommended that a permanent videotaping studio which is relatively soundproof and secure from accidental intrusion be provided. This would greatly facilitate the micro-teaching portion of the program. A minimum of two cameras and permanent use of one playback system with access to a second system are minimum requirements for even a limited number of STs. For a larger number of STs than were used in the present study it would be imperative to have at least one faculty member who is proficient in the area of teaching skills to direct the program; one full-time studio technician; a part-time secretarial assistant and a graduate assistant to monitor teaching practices.

It has been assumed by some that teaching skills will be learned by STs during student teaching as a natural outcome of observing these behaviors displayed by experienced teachers. However, this study would not tend to support this contention. Either teachers with whom STs are placed in student teaching situations are not employing the skills selected for this study or STs are unable, without help, to identify and practice skills of teaching which are considered appropriate for encouragement of learning on the part of children.

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APPENDIXES

APPENDIX A
STUDENT TEACHER EVALUATION FORMS

TEACHER _____ DATE _____

OBSERVER _____

ART SUBJECT AREA _____

TEACHING SKILL: SET INDUCTION

Directions: Check the answer at the right of each statement which best indicates your feeling regarding each statement appearing at the left.

INTEREST

The teacher's introduction to the lesson was:

- ___ a. unusually exciting.
 ___ b. very good.
 ___ c. good.
 ___ d. uninspiring.
 ___ e. poor or non-existent.

The teacher's introduction encouraged me to:

- ___ a. want to know more.
 ___ b. be only casually interested.
 ___ c. become confused or bored.

COGNITIVE LINK

The relationship between the introduction and the body of the lesson was:

- ___ a. clear and understandable.
 ___ b. only partially understandable.
 ___ c. irrelevant or confusing.

RETENTION OF SUBJECT

The introduction will:

- ___ a. significantly aid me in remembering the lesson content.
 ___ b. probably aid me in remembering at least some of the lesson content.
 ___ c. be of little or no value in helping me remember the lesson content.

COMMENTS

TEACHER _____

DATE _____

OBSERVER _____

ART SUBJECT AREA _____

TEACHING SKILL: QUESTIONING

Directions: Cross out a number, in consecutive order, each time the behavior is displayed.

REFOCUSING

The teacher occasionally refocused the question in order to help pupils view a concept from a different frame of reference.

1 2 3 4 5 6 7 8 9 10 11 12 13
14 15 16 17 18 19 20 21 22 23

REDIRECTION

The teacher occasionally redirected the question to another pupil in order to develop a thought more completely or to get another view on the subject.

1 2 3 4 5 6 7 8 9 10 11 12 13
14 15 16 17 18 19 20 21 22 23

INVOLVEMENT

The teacher's questioning technique required constant thought and attention on the part of pupils in the class.

1 2 3 4 5 6 7 8 9 10 11 12 13
14 15 16 17 18 19 20 21 22 23

QUESTION CHARACTERISTICS

Questions allowed for guessing by being of a "yes"- "no" variety.

1 2 3 4 5 6 7 8 9 10 11 12 13
14 15 16 17 18 19 20 21 22 23

Questions required the memorization of discrete facts.

1 2 3 4 5 6 7 8 9 10 11 12 13
14 15 16 17 18 19 20 21 22 23

Questions were of a rhetorical nature.

1 2 3 4 5 6 7 8 9 10 11 12 13
14 15 16 17 18 19 20 21 22 23

Questions either ambiguous or unclear.

1 2 3 4 5 6 7 8 9 10 11 12 13
14 15 16 17 18 19 20 21 22 23

Questions required higher order cognitive processes of analysis, synthesis and evaluation.

1 2 3 4 5 6 7 8 9 10 11 12 13
14 15 16 17 18 19 20 21 22 23

COMMENTS _____

TEACHER _____

DATE _____

OBSERVER _____

ART SUBJECT AREA _____

TEACHING SKILL: REINFORCEMENT

Directions: Cross out a number, in consecutive order, each time the behavior is displayed.

POSITIVE--Non-verbal reinforcement

When pupil made a contribution or responded to a question in an acceptable manner the teacher rewarded him by smiling; gave an affirmative nod; moved toward the pupil; looked interested as the pupil responded or wrote pupil's response on chalkboard.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
---	--

POSITIVE--Verbal reinforcement

When the pupil made a correct contribution the teacher responded with "fine", "good"; addressed the pupil by name or used a cheerful and enthusiastic tone of voice.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
--	--

NEGATIVE--Non-verbal reinforcement

In response to pupil, teacher scowled or frowned; moved away from the pupil or looked bored.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
--	--

NEGATIVE--Verbal reinforcement

In reply to a pupil's response the teacher ridiculed pupil's sincere efforts; responded with, "no" or "that's not correct" and so forth.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
--	--

COMMENTS _____

TEACHER _____ DATE _____

OBSERVER _____

ART SUBJECT AREA _____

TEACHING SKILL: STIMULUS VARIATION

Directions: Cross out a number, in consecutive order, each time the behavior is displayed.

MOVEMENT

During the lesson the teacher moved left or right, forward or backward and into and behind pupils.

1 2 3 4 5 6 7 8 9 10 11 12 13
14 15 16 17 18 19 20 21 22 23

GESTURES

The teacher incorporated movements of body, head or hands in a meaningful manner in order to convey added importance to the thought expressed.

1 2 3 4 5 6 7 8 9 10 11 12 13
14 15 16 17 18 19 20 21 22 23

FOCUSING

Verbal focusing was achieved by the teacher in the use of expressions such as, "note this point," "look closely" or "this is important."

1 2 3 4 5 6 7 8 9 10 11 12 13
14 15 16 17 18 19 20 21 22 23

Non-verbal focusing of tapping on chalkboard; flipping the lights or holding finger to lips was used by the teacher.

1 2 3 4 5 6 7 8 9 10 11 12 13
14 15 16 17 18 19 20 21 22 23

INTERACTION

The teacher used a variety of interaction forms such as teacher-pupil; teacher-group; pupil-pupil and role playing.

1 2 3 4 5 6 7 8 9 10 11 12 13
14 15 16 17 18 19 20 21 22 23

PAUSING

The teacher paused after making a point in order to allow pupils time to think, take notes or ask questions.

1 2 3 4 5 6 7 8 9 10 11 12 13
14 15 16 17 18 19 20 21 22 23

ORAL-VISUAL SWITCHING

The teacher used other means than verbal to convey concepts such as pictures, models, chalkboard drawings.

1 2 3 4 5 6 7 8 9 10 11 12 13
14 15 16 17 18 19 20 21 22 23

COMMENT

TEACHER _____

DATE _____

OBSERVER _____

ART SUBJECT AREA _____

TEACHING SKILL: CLOSURE

Directions: Check the answer at the right of each statement which best indicates your feeling regarding each statement appearing at the left.

CONCEPT CONSOLIDATION

Concepts and ideas were consolidated and reviewed by the teacher at the conclusion of the lesson.

- _____ a. very well done.
 _____ b. well done.
 _____ c. poorly done or absent.

INTERIM REVIEW

Periodically throughout the lesson the major points were summarized and reviewed by the teacher.

- _____ a. very well done.
 _____ b. well done.
 _____ c. poorly done or absent.

CONTENT RELATIONSHIP

The teacher pointed out relationships of the present material to both past and future learning.

- _____ a. very well done.
 _____ b. well done.
 _____ c. poorly done or absent.

FEEDBACK AND PRACTICE

The teacher provided opportunities for pupils to demonstrate learnings through summarizations or other appropriate means.

- _____ a. very well done.
 _____ b. well done.
 _____ c. poorly done or absent.

SUMMARIZATION

The teacher or pupils summarized major points of the class discussion and lesson content.

- _____ a. very well done.
 _____ b. well done.
 _____ c. poorly done or absent.

COMMENT _____

APPENDIX B

RATER EVALUATION FORM

VIDEO TAPE EVALUATION

No		yes	no	total	
_____	Set induction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Closure				
	Questioning	<input type="checkbox"/>			
	Positive reinforcement				
	Negative reinforcement				
		Stimulus variation	<input type="checkbox"/>		
_____	Set induction	<input type="checkbox"/>			<input type="checkbox"/>
	Closure				
	Questioning	<input type="checkbox"/>			
	Positive reinforcement				
	Negative reinforcement				
		Stimulus variation	<input type="checkbox"/>		
_____	Set induction	<input type="checkbox"/>			<input type="checkbox"/>
	Closure				
	Questioning	<input type="checkbox"/>			
	Positive reinforcement				
	Negative reinforcement				
		Stimulus variation	<input type="checkbox"/>		
_____	Set induction	<input type="checkbox"/>			<input type="checkbox"/>
	Closure				
	Questioning	<input type="checkbox"/>			
	Positive reinforcement				
	Negative reinforcement				
		Stimulus variation	<input type="checkbox"/>		

VITA ³

Audrey Eleanor Oaks

Candidate for the Degree of

Doctor of Education

Thesis: A COMPARATIVE STUDY OF ATTITUDINAL AND BEHAVIORAL CHANGE IN
TEACHERS OF ART AS A RESULT OF VIDEO-TAPE FEEDBACK AND CLASS-
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