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THE UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

THE DEGREE OF ATTRACTION TOWARD A MODEL AND THE SUBSEQUENT LEARNING OF CLASSROOM CONTINGENCY MANAGEMENT

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

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degree of

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BY

GARY WAYNE BYRD

Norman, Oklahoma

1975

THE DEGREE OF ATTRACTION TOWARD A MODEL AND
THE SUBSEQUENT LEARNING OF CLASSROOM
CONTINGENCY MANAGEMENT

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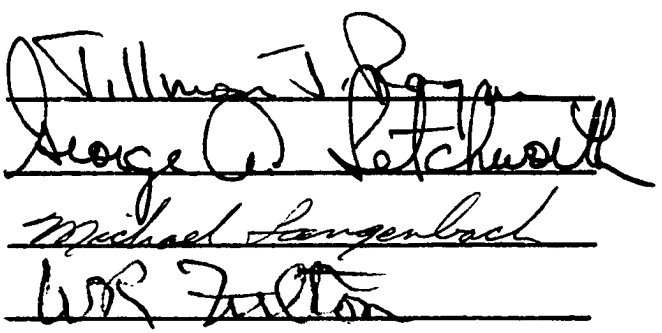

DISSERTATION COMMITTEE

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CHAPTER I

INTRODUCTION AND PROBLEM

A. J. Lott (1969) has argued persuasively that there is both theoretical and empirical evidence indicating that learning is enhanced by positive interpersonal relationships. Historically, our educational endeavors seem to have either ignored the role of interpersonal attraction in the learning process or have wittingly or unwittingly fostered negative situations in the classroom environment.

With the increased emphasis on teacher-student interaction and personalized instruction in our school systems (Myer & Myer, 1973) the variables involved in interpersonal attraction as they relate to learning should be investigated more thoroughly. This researcher proposes to investigate the effects of positive and negative attraction toward a teacher on a student's ability to learn from that teacher.

Another area which has been investigated in conjunction with the attraction variable, and is closely related to it, is the effects of learning Classroom Contingency Management techniques on pre-service teacher's attitudes toward elementary and secondary students. The results of an investigation in this area might add to the body of knowledge needed to improve teacher-student interaction and attraction. The use of classroom contingency management techniques by teachers is reported by Thompson and others (1974) to enhance the teacher's ability to

interact with students in a positive manner as well as enabling the teacher to maintain classroom discipline. It is proposed that the learning of classroom contingency management techniques will develop in the student teacher a more positive attitude toward elementary and secondary students because the student teacher will have more confidence in his ability to interact with individual students and reduce his anxiety concerning how to manage discipline problems in the classroom.

A third area to be investigated in this study concerns the effectiveness of the delivery methods used to present the principles and techniques of classroom contingency management (CCM) to the preservice teachers. The two methods of presentation were simulation via television and printed booklets. One of the main reasons for investigating this factor is that CCM has been shown to be an effective approach to classroom management but few if any provisions have been made for distributing it as a learning package for in-service teachers.

Statement of the Problem and Purpose

Research Problem

What effect will a Subject's attraction, either positive or negative, toward a model have on the Subject's learning of Classroom Contingency Management ?

The following questions were generated in an attempt to examine two secondary concerns of the study.

1. What effect will a modeled presentation, as compared to a printed presentation, have on the Subject's learning of Classroom Contingency

Management ?

2. What effect will a Subject's learning of Classroom Contingency Management techniques have on the Subject's attitudes toward elementary and secondary school students ?

Purpose

The purpose of this study was to investigate the effects of the attitudes toward a model on the resultant learning of the Subject. The secondary purpose of the study was to investigate the effects of a modeled presentation versus a printed presentation on the subsequent learning of the Subject and to determine if the learning of classroom contingency management techniques have any effect on the Subjects' attitudes toward students. The two independent variables which were manipulated in this study were: (1) Subjects having a positive attraction (liking) or negative attraction (dislike) toward the model ; (2) Subjects having a model or no model and are required to read the presentation. The two dependent variables which were examined in this study were: (1) Learning, i.e., knowledge of CCM, as measured by a 25 item multiple choice test ; (2) Attitudes of students as measured by the Minnesota Teacher Attitude Inventory.

Hypotheses

The following hypotheses were generated by the research problem and questions.

1. Subjects who have positive attraction (liking) toward the model learn more than Subjects who have negative attraction (dislike) toward the model in a simulated television presentation.

2. Subjects who have a modeled presentation learn more than Subjects who have a no-model printed presentation.

3. Subjects who receive instruction on CCM experience greater attitude change than the Subjects who receive no CCM instruction.

Definition of Terms

For the purpose of this study the following definitions and explanations were proposed:

Model : A person used for imitation.

Simulation : Reproducing or representing a specific set of environmental conditions.

Attentional Process : Attending to, or recognizing, the important features of a models' behavior.

Learning : Knowledge as measured by a 25 question multiple choice test on classroom contingency management.

Attitude Toward Students : A state of mind regarding how well a Subject will get along with pupils in interpersonal relationships as measured by the Minnesota Teacher Attitude Inventory.

Positive Attraction : An implicit anticipatory goal response.

Negative Attraction : An implicit anticipatory response to pain or frustration.

Attitude Toward Model : A state of mind regarding the opinion a Subject holds for the model as measured by the Interpersonal Judgement Scale. (see Appendix F)

Attitudes in General : A state of mind regarding opinion on a variety of subjects as measured by the "fifty-six item attitude scale." (see Appendix A)

Classroom Contingency Management : Will be defined by the nature of the reinforcement contingency employed and assessed; teacher attention; peer attention; token reinforcement; and vicarious reinforcement.

Limitations

This study was limited by certain parameters as is any study. The most important of these limitations were :

1. The 25 item multiple choice test was developed to determine the extent to which the Subjects had learned CCM. The content validity was established by developing questions from the presentation script and posttests. The reliability was determined with the use of the Kuder-Richardson (KR-20) method for determining reliability. The multiple choice test has validity only when it is used with the presentation on CCM developed for this study.

2. The Subject sample was limited to 48 undergraduate female Students enrolled in the teacher certification program at the University of Oklahoma. Therefore the generalizations are limited to females, but in education this is a very large population. Pre-service teachers were in training for service in grades K through 12.

3. The model used in the simulated presentation was a male. Therefore the generalizations are not only limited to females, but females with a male model. Again as in the previous limitation this population is a very large one.

CHAPTER II

REVIEW OF RELATED LITERATURE

Within the related literature section of this study, the researcher covered four areas which were considered to be the most relevant to this effort. These four areas are as follows: (1) Classroom Contingency Management; (2) Simulation; (3) Modeling and imitation as they pertain to learning; (4) Attraction as it pertains to learning.

Classroom Contingency Management

The changing of elementary and secondary student's behavior has been one of the main topics of concern among professional educators for generations. The solution to the problem of how to control behavior has been sought for very good reason. If educators could change or shape behavior toward a desired outcome it would mean a reduction or elimination of unproductive student behaviors, such as student classroom disruptions or a student's non participation in the learning process. The time required by the educator to handle disruptions and/or apathy on the part of the student assumes large portions of the time allotted the educator to guide and direct his students in the teacher's particular discipline area.

Many psychologists in the past as well as the present have

tried to predict behavior and thereby control it. The control of behavior is not yet in hand nor is it even in the foreseeable future. But the shaping and modification of behavior, within certain limits, are in our grasp.

Many studies have shown that classroom behaviors, such as disruptions and students' attention toward a given task, can be modified (Thompson, Brassell, Persons, Tucker, and Rollins, 1974; Glover, 1971; Madisen, Becker, and Thomas, 1968; Becker, Madsen, Arnold, and Thomas, 1967; Harris, Wolfe, and Baer, 1964). Academic performance has also been shown to be amenable to modification (e.g., Rollins, Mc Candless, Thompson, and Brassell, 1973; Hamblin, Buckholdt, Ferritor, Kozloff, and Blackwell, 1971; Sutzer, Hunt, Ashby, Koniarski, and Krams, 1971). There is evidence to indicate that the educator is beginning to receive some of the answers to his long asked question of how to change the students' classroom behavior. But there is a price which the educator must pay for this newly developed classroom management technique. That price is a change in the educator's classroom behavior. In other words, the educator must be willing to modify his own behavior in order to realize a change in his student's behavior. The modification in the educator's behavior that is being suggested has roots in an operant conditioning viewpoint of classroom management.

Within the last two decades several psychologists have moved from an experimental analysis of behavior toward an interest in the applications of their laboratory work. This move might be viewed as one

from a laboratory study of operant conditioning to behavioral engineering in various community institutions. Both the operant conditioner and the behavioral engineer are aware of the theory and applied principles of behavior modification. The theorist in operant conditioning is concerned with the advancement of the basic laboratory science and is interested in variables that relate to behavior, while the behavioral engineer has left the laboratory in order to make systematic applications of the principles of operant conditioning to problem behaviors as determined by society (Homme, L., Baca, P. C'de, Cottingham, L., and Homme, A., 1968). This change in direction has been accompanied by a new research strategy (i.e., the applied analysis of behavior); and a new body of knowledge (Altman and Linton, 1971).

Altman and Linton sight three important reasons why teachers and classrooms are ideal targets for behavioral engineering:

> 1. ...the classroom is the traditional place where children's social and academic behavior is modified.
> 2. The desired objectives are generally accomplished by the use of praise, grades, and criticisms contingent upon student classroom behavior. By definition, the teacher is a contingency manager, i.e., the teacher knowingly or not reinforces behavior.
> 3. ...schools are ideally suited for behavioral engineering in that the necessary environmental controls are feasible in this setting (Altman and Linton, 1971).

Teacher attention in the form of praise, smiles, and reprimands, when made contingent upon the behaviors of students in a classroom, may serve to increase the rate at which those behaviors are emitted regardless of the nature, positive or negative, of the attention. Studies of nursery school children summarized by Baer and Wolf (1968) have lent support to this

assumption and have subsequently led to its investigation in the public school classroom.

Holmes (1966) reported the case study of a boy who chronically disrupted the classroom, initiated fights, and was under-achieving academically. An evaluation of the situation indicated that the teacher was punishing the child in the classroom and that this helped to maintain or accelerate the deviant behavior. The teacher initiated a reversal of her strategy. She punished the child by isolating him from the rest of the class and attended to appropriate behavior while the child was in the class. This procedure resulted in an apparent elimination of the students' problem behavior in the classroom. As Holmes has indicated, this study has little value other than providing an illustration of the principles of behavior modification in action in a school setting. Since systematic recording of behavior was not carried out by Holmes, we cannot be assured that change did occur (Altman and Linton, 1971).

A preliminary study by Becker and others (1968) demonstrated a reliable technique for recording teacher-student behavior in the classroom. Ten children whose behaviors could reliably be rated by trained observers, and who also displayed frequent problem classroom behaviors were selected for study. The children were drawn from five different classrooms each with a different teacher. Following the 5-week baseline period, teachers were instructed to provide rules of good classroom conduct, dispense reinforcement, e.g., smiles and praise, only for behaviors compatible with learning and teaching, and to generally ignore behaviors

incompatible with these goals. When teacher approval was made contingent upon appropriate behavior, the rate of such behavior increased significantly. The average deviant behavior for the ten children during the baseline period was 62.13 percent while the deviant behavior during the experimental phase was 29.19 percent. The follow-up study attempted to institute controls which were lacking from the earlier study by Becker and others (1968). By instituting rules, praise, and ignoring conditions separately, and employing a reversal to baseline, it was possible to determine the relative effectiveness of each condition by comparing them against a common baseline (Fester, 1969). Attending to the rules and ignoring inappropriate behavior exerted no substantial decremental effects upon the base rate of inappropriate behavior, but when praise for appropriate behavior was added, inappropriate behavior decreased significantly.

Further support for the effectiveness of praise contingent upon appropriate and not inappropriate classroom behavior in decreasing the rate of disruptive classroom behavior has been gathered by Carnine and others (1970). The rate of disruptive behavior was assessed for students when the teachers used only disapproval (baseline) and approval for appropriate behavior and ignored inappropriate behavior for one group of students (B), but did not use approval for another group (A). They then withdrew praise for group A, and instituted the prior group A condition for group B. The dispensing of praise in the classroom was found to effect decreases in disruptive behavior only for those students for whom

it was response contingent at that time. Approval, consequated with appropriate behavior, and the absence of approval, consequated with inappropriate behavior, appeared to be sufficient conditions for maintaining classroom behavioral control in this case.

Of those studies discussed thus far, only Fester (1969) and Carnine and others (1970) made any attempt to reverse experimental conditions. Neither of these reversals consisted of switching the positively reinforced behavior. If teacher praise is indeed a positive reinforcer, it should increase the rate of whatever behavior it consequates. Hall and others (1968) provided a test of that notion. From three different classrooms, a total of five students were selected by their teachers as manifesting problem behaviors. After base rates for student study and non-study behaviors were established and teacher attention to each was tabulated by reliable observers, teachers were instructed to pay attention only to study behaviors. This procedure resulted in an increase in study behavior for all three classes.

The next experimental condition called for a reversal in the form of attending only to non-study behaviors. The results of this contingency reversal revealed consequent decrements in the study behaviors and, of course, increases in non-study behaviors of the students. These data then confirm the hypothesis that attention functioned as a positive reinforcer for whatever behavior it followed.

The studies mentioned up to this point have dealt with problem behaviors

in public school classrooms with typical pupil-teacher ratios. None of these studies has attempted to assess the effectiveness of teacher attention on all students in a single classroom. Instead, the target population of children with problem behaviors was selected for study. In a more recent study Thompson and others (1974) trained fourteen teachers to use a contingency management program emphasizing the reinforcement of appropriate conduct while minimizing attention to inappropriate conduct. All students and teachers from the 14 classrooms (Grades 1-5) of Fred A. Toomer Elementary School participated in the study. In addition, students and teachers from eight classrooms (Grades 1-4) of a nearby elementary school served as control subjects . All students were black, and both sexes were approximately equally represented. At the same time the study was run there were three white teachers at each school; all others were black. The eight control teachers were female; there were three male and eleven female teachers at Toomer. All the teachers at Toomer received training in behavior management while the control teachers received neither training nor assistance. Thompson and others used an in-class observation procedure which required approximately 45 minutes for a complete observation. Each 45 minute observational period consisted of three 15 minute observational sequences. Within each 15 minute sequence, the observer first recorded teacher behavior (5 minutes), then student disruption (5 minutes), and finally student attention (5 minutes).

The training procedure produced appropriate changes in most of the teachers' behavior. In addition, there were substantial changes in student

behavior in experimental but not control classes. There was a substantial and reliable drop in the level of disruption in experimental classes for pre- to post-test. There was also a drop in level of disruption during the last block of pretest. However, the drop from that block to the first block following training was also substantial and reliable. The mean number of disruptions per student for the six observations were pre-training, 1.32, 1.26, and 0.83; post-training, 0.49, 0.59, and 0.60. Further, control students maintained a constant and high level of disruption over the pre- to post-test interval. As a result, the reduction in level of disruption in experimental classes from pre--to post-test exceeded the reduction in control classes. Thirteen of 14 experimental classes were less disruptive following behavior management training.

These data indicate, then not only that contingency management can work but also that it works extremely well in the majority of classes where employed. For these reasons, and, since the training can be accomplished relatively inexpensively (approximately $100 per teacher excluding cost of evaluation), the procedure offers real promise for education (Thompson and others, 1974).

Now that some need has been established for using classroom contingency management techniques, the vehicle by which this classroom technique was presented to the Subjects in the present study should be examined.

Simulation

The classroom behavior and attitudes of teachers as well as the overall approach to teacher education have been of major concern to researchers for quite some while (Cook, Leeds, and Callis, 1951; Flanders, 1965; Ingle, and Robinson, 1965; Amidon and Hough, 1967). In an attempt to modify or enrich teacher's behavior many researchers have pursued the methods of vicarious or simulated observational experiences of classroom situations (Fulton and Rupiper, 1962; Kersh, 1963 & 1965; Vlcek, 1965 & 1966; Twelker, 1966; Cruickshank, 1966 & 1971; Reid and MacLennan, 1967; Schueler and Lesser, 1967; Allen, 1969; Flanders, 1969; Rosenshine, 1970; Ragan, 1970; Holcomb, 1972). Some of these researchers found a difference in favor of vicarious or simulated events and some did not. But none of the former studies found a difference in favor of existing methods of instruction. Although most of the studies involving the use of simulation which were reviewed by this author did not yield a difference in their separate results, the researchers did conclude that simulation was superior to existing methods of instruction for several reasons. One reason was that simulated events could be controlled, evaluated and improved in effectiveness much more easily than existing methods of instruction and in most cases the simulations were less expensive to administer than the methodologies they supported or replaced.

A few definitions of simulation at this point should help to clarify the meaning of a simulated event. Davis and Behan provide an explanation of the meaning of "simulation" in a wide range of applications. They write: The term simulation is used... (to mean) reproducing or repre-

senting a specific set of environmental conditions (Davis and Behan, 1965). Cruickshank provides a definition of simulation within a more limited frame of reference, that of a classroom-use standpoint, specifically, the kind of simulation involved in "gaming."

> Simulation may be defined as the creation of realistic games to be played by participants in order to provide them with lifelike problem-solving experiences related to their present or future work. Such game situations require each player to make decisions based on previous training and available information. After the player encounters an incident and makes a subsequent decision, he is provided with opportunities to see and/or discuss one or more possible consequences that may result (Cruickshank, 1966).

The significant data generated by experiments designed to investigate the effects of simulation are by no means overwhelming, but this researcher believes they are sufficient to speculate on a positive outcome for the present study.

Modeling and Imitation

One of the fundamental means by which new behaviors are acquired and existing patterns are modified involves modeling and vicarious processes. It is obvious from informal observation that human behavior is to a large extent socially transmitted, either deliberately or inadvertently, through the behavioral examples furnished by influential models (Bandura, 1973). As Reichard (1938) stated so long ago, "the word 'teach' is the same as the word for 'show,'" in many languages.

There are many reasons why modeling plays such an important role in our acquisition of novel behaviors. When mistakes are either too costly or dangerous, skillful performances can be established through the

use of competent models who demonstrate how the desired activities should be performed (Bandura, 1974). It would be no small wonder if anyone were to survive their formative years because mistakes often have fatal consequences. The influence of models is imperative in the development of some complex behaviors. For example children could not master the complex skills of linguistics without the opportunity to hear speech. Modeling is a necessity where behavior can only be conveyed by social cues. Even in incidences where behavior could be acquired through other modes, the use of the proper models can facilitate the process considerably (Bandura and McDonald, 1963; Luckins and Luckins, 1961).

Observational learning or, if one prefers, learning by example is dependent upon four subprocesses(Bandura, 1973). Only one of these subprocesses will be discussed here for it specifies the condition that is to be examined in this study. That subprocess is known as the attentional process.

A person cannot learn much by observation if he does not attend to, or recognize, the important features of the model's behavior. One of the main component functions in observational learning therefore involves attentional processes. Exposure to models does not in itself insure that people will attend closely to them, that they will necessarily select from a model's numerous characteristics the most relevant ones; or that they will even perceive accurately the aspects they happen to notice.

Within any social group, certain members are more likely to be selected as sources of behavior than others. The functional value of the behaviors displayed by different models is highly influential in determining which models will be closely observed and which will be ignored. A model's efficacy is inferred partly from tangible evidence of the results his actions typically produce and partly from status-conferring symbols that signify competence and past successes. The behavior of models who possess high status in prestige, power, and competence hierarchies is more likely to be successful and therefore to command greater attention from others than the behavior of models who are socially, occupationally, and intellectually inept. (Bandura, 1973).

Attention to models is channeled not only by the utilitarian value of their behavior, but also by their interpersonal attraction (Bandura, 1974). Models who possess interesting and winsome qualities are actively sought, whereas those who lack rewarding characteristics tend to be ignored or actively rejected, even though they may excel in other ways. Control of attention through rewarding qualities is perhaps nowhere better illustrated than in televised modeling. Most televised stimulation commands the attention of people of all ages for extended periods. Indeed, models presented in televised form are so effective in holding attention that viewers learn the depicted behavior regardless of whether or not they are given extra incentives to do so (Bandura, Grusec, and Menlove, 1966). Psychological characteristics of viewers also exert selective influence on what they are most likely to attend to.

Observational learning is not a passive receptive process in which people simply absorb the vast array of models they encounter in their daily interactions. When people are exposed to a variety of models, as is invariably the case, they rarely confine their learning to a single source, nor do they reproduce all the characteristics even of preferred models. In experiments in which multiple models display different behaviors, the imitative patterns of observers generally represent amalgams of elements from the different models (Bandura, Ross, and Ross, 1963b). Moreover, the particular admixture of behavioral attributes varies from person to person.

Bandura states the following concerning the use of a model to facilitate learning:

> Although behavior can be shaped into new patterns to some extent by rewarding and punishing consequences, learning would be exceedingly laborious and hazardous if it proceeded solely on this basis. Most of the intricate responses people display are learned, either deliberately or inadvertently, through the influence of example. Indeed, virtually all learning phenomena resulting from direct experiences can occur on a vicarious basis through observation of other people's behavior and its consequences for them. Man's capacity to learn by observation enables him to acquire complex patterns of behavior by watching the performances of exemplary models. Emotional responses toward certain places, persons, or things can also be developed by witnessing the affective reactions of others punished for their actions. And, finally, the expression of previously learned responses can be socially regulated through the actions of influential models(Bandura, 1973).

Now that the process of attention in modeling has been discussed the concept of attraction should be investigated; for if the observer is attracted to a model it should influence the amount of attention the observer pays to the model.

Attraction

Sapolsky (1960) investigated the effects of interpersonal relationships on learning in a laboratory context. He hypothesized that a liked experimenter would have a greater effect on performance than disliked experimenter in a verbal conditioning task.

The subjects were female undergraduates at Adelphi College. In two investigations the experimenter was another undergraduate female or a female graduate student posing as an undergraduate. Half of the subjects were given information designed to induce them to like the experimenter and half were given negative information. Attraction was manipulated with respect to simulated or actual similarity on the FIRO-B. In a verbal conditioning task, the experimenter used "mmm-hmm" to reinforce sentences which the subject began with the words "I" or "we."

In each experiment, there were dramatic differences in acquisition between the high and low attraction groups with the positive group showing the greatest changes in performance.

Sapolsky (1960) concluded:

> When there was either High-Attraction or Compatibility between S and E, the reinforcing value of "mmm-hmm" was enhanced, presumably by the additional reinforcing qualities that E represented, and a typical learning curve was obtained during acquisition. When the Attraction between S and E was low (or S and E were Incompatible), no significant increase in the use of the reinforced pronouns occurred during the acquisition period of either experiment. The personal quality of E can here be viewed as having taken on the aspects of an aversive stimulus which resulted in a decrement in the observed strength of the conditioned response (page 245).

Lott and Lott (1966) proposed that the greater the degree of inter-

member liking within a group, the better will be individual learning within that group. They cited some previous evidence (e. g., Shaw and Shaw, 1962) which support the general proposition.

Their subjects were fourth- and fifth-grade children. On the basis of a previously administered sociometric test, subjects were placed in small same-sex groups (N=3 or 4) which were high or low in intermember attraction. Groups were also homogeneous with respect to IQ. Several tasks involving the learning of Spanish equivalents of English words were given.

It was found that for high IQ subjects the high attraction groups did consistently better than the low attraction groups. The low IQ subjects did consistently less well on the task, and their performance was not affected by attraction.

Positive attraction (liking) is defined as an implicit anticipatory goal response and negative attraction (dislike) as an implicit anticipatory response to pain or frustration. Some of the conditions under which positive and negative anticipatory responses are learned to persons have been considered by Lott and Lott (1968). Such implicit responses with cue properties can function as stimuli for other acts (covert or observable), and it is in this sense that attitudes are said to have particular consequences for measurable behavior (Doob, 1947; Lott and Lott, 1970).

Some of the consequences of interpersonal attitudes have been the focus of many investigations. For example, the degree to which the

persons in one's natural group are liked has been shown to positively influence both the level of communication in the group and the degree to which members conformed to a group evaluation of an issue (Lott and Lott, 1961). Photographs of liked and disliked peers were found to function effectively as positive and negative reinforcers in the learning of a discrimination problem (Lott and Lott, 1969).

The anticipatory responses of liking and disliking are presumed to serve both cue and drive functions. Because of this, it is expected that liked and disliked persons will be especially salient stimuli as compared with persons who are regarded neutrally.

Evidence from a group of studies (Lott and Lott, 1970) supports the assumptions regarding the evocation of approach and avoidance behaviors by liked and disliked persons, respectively. For example, two different samples of children, in different situations, were found (a) to spend more time looking at photographs of peers they liked most and (b) to choose boxes covered with the photos of most liked peers when looking for a hidden coin. In addition, liked peers were drawn by first grade children in (a) significantly greater detail and (b) with larger heads, relative to bodies, than were disliked peers.

These investigations suggest the possibility of a line of research to determine the effects of attraction on learning and performance in various educational settings.

CHAPTER III

METHODOLOGY

This chapter outlines the population, selection and sample, the instrumentation, the research design and the procedure.

Population and Sample

The population from which the sample was drawn for this study consisted of female undergraduates enrolled in the Teacher Certification Program at the University of Oklahoma. The courses from which the Ss were randomly drawn were Education 4404, "Curriculum and Instruction in Elementary School," and Education 4160, "Media and Technology in Teaching."

During the first week of the summer session, 1973-74, the researcher met with each section of the previously mentioned education classes and administered the Fifty-Six Item Attitude Scale to all members of the two classes. The students were asked to check a box provided at the top of the test if they were in the Teacher Certification Program. After the population had completed the attitude survey they were informed of the fact that it was a requirement of the course to participate in at least one experiment if called upon to do so. They were told that they may or may not be asked to participate in an experiment and that if asked to do so it would not take more than one hour of their time. It was stressed that all the experiments would be interesting and relevant to their present studies.

Once the attitude survey was collected the researcher eliminated all tests which did not have the Teacher Certification Program box checked and assigned a number to each remaining test result. A table of random numbers was used to select 48 Ss from the population. To establish the proper sample size, which in this experiment was 48, Hay's (1963) omega squared (W^2) was used. The following criteria were imposed in calculating sample size : Alpha of .05, Power of .96, and an omega of .25 or more. Using these criteria an individual cell size of 12 Subjects (n) was found to be sufficient.

As a check this same sample size was also obtained from Cohen's (1969) Tables with the only difference being the use of the criterion of Effect Size (ES) rather than W^2 for entering the Tables. The ES used in Cohen's Tables was .4 which is considered small to medium and is approximately equal to an W^2 of .25. Both ES and W^2 are predictor functions. Again an individual cell size of 12 Subjects was found to be sufficient.

Once the Ss were selected their names were placed on one of two sign-up sheets. One sheet was for students selected from one course and the other for students selected from the other course. At the beginning of the second class period the sheets were passed around in the appropriate class. The students were asked to check the sheet and if their name appeared at the top they were to sign-up for a time when they could participate. The 4160 class was given the 3rd week in June, Monday through Friday, from 8:30 A.M. to 9:30 P.M. every hour on the half hour. The 4404 class Ss were restricted to the 4th week in June, Monday through

Friday, from 8:30 A.M. to 9:30 P.M. every hour on the half hour. The Ss were asked to place their name and phone number beside the time they had chosen.

Forty-eight Ss were randomly assigned to four groups by placing all 48 names in a container and placing the first 12 Ss drawn into group 1, the second 12 Ss into group 2 and so on until there were 4 groups containing 12 Ss per group.

Procedure and Materials

Experimental treatment and testing for the groups took place in a carrel designed and constructed by the researcher for use in this study. The carrel contained a 12" B&W television monitor which was used to present the simulated instruction on CCM via video tape. The group which was assigned to just read the script and the no-treatment group also used the carrel. The simulation material consisted of video tape, the printed script of the simulated event and printed instructions produced by the researcher for use in this study. The video tape contained a male model narrating and demonstrating the principles of classroom contingency management. The printed script (see Appendix C) administered to the no-model printed presentation group during experimental treatment was the same script the model used to produce the video tape (see Appendix B).

The model in the video tape was a graduate assistant in Educational Media at the University of Oklahoma. The class used to make the simulated

events was a 4th grade class at a public elementary school in Norman, Oklahoma. The students in the simulation were instructed to make the appropriate responses to the model.

The script for the instruction on the techniques of classroom contingency management was taken mainly from Humanizing Classroom Discipline: A Behavioral Approach (Dollar, 1972).

The experiment consisted of four groups containing 12 Ss each. The first group which shall be called the High Attraction Group (HAG) and the second group which shall be called the Low Attraction Group (LAG) viewed the same simulated classroom presentation. The video tape contained a male model discussing and demonstrating the principles of classroom contingency management.

Group 3 the no-model or Printed Presentation Group (PPG) did not receive a simulated classroom presentation. This group received exactly the same instruction as the HAG and LAG but it was in printed form (see Appendix C). The Subjects from the PPG were instructed to read the printed script (see Appendix E).

Group 4, the Control Group (CG), did not receive any instruction in CCM. During treatment the Subjects from the CG were instructed to read a 15 minute article on Higher Education in order to help control variables other than the ones being manipulated.

Treatment

The Fifty-Six Item Attitude Scale (Survey of Attitudes) was administered to all students in the parent population as a pre-

test only (see Appendix A). The FSIAS was taken from: The Attraction Paradigm, (Byrne, 1971). The attitude survey is a 56 item test with responses measured on a 7 point scale. The split-half reliability for the scale is .84 (Byrne & Nelson, 1965a). This test was used to establish the attitudes of the Ss.

Only the Attitude Surveys of Ss in the HAG and LAG were needed for the experiment. In order for a S in the HAG to develop positive feeling toward the model it was necessary to develop an attitude survey for the model which was similar to each S in the HAG. This similar attitude survey result was given to each S in the HAG before the model made his presentation. Each S was told that this contrived attitude survey reflected the actual attitudes of the model they were about to view. The attitude surveys for the LAG were developed in order to reflect an attitude survey exactly the opposite of the S's own attitudes thereby setting up a situation influencing the likelihood that Ss in the LAG would form negative feelings toward the model. The Ss in the LAG were also told that the attitude survey results they were given actually were the responses of the model they were about to view. The model's portfolio given to Ss in the HAG and LAG (The PPG and CG received no portfolio) was the Fifty-Six Item Attitude Scale (FSIAS). This researcher took the attitude survey results of Ss in the HAG and LAG and developed an attitude survey for the model for each S which varied from 1.00 similarity for Ss in the HAG to .00 similarity for Ss in the LAG (Byrne, 1971).

The Minnesota Teacher Attitude Inventory (MTAI) was administered

as a posttest but since this researcher used a posttest only design, the MTAI mean score for the CG also served as a pretest mean for all Groups. There are 150 opinion statements to be marked "Strongly agree," "Agree," etc. It usually takes from 20 to 30 minutes to complete the inventory. Results on the validity of the MTAI ratings by principals, observers, and pupils themselves correlate .45 to .49 with scores on the test. When the three types of ratings are combined into a more reliable criterion, correlations with test score in three studies are remarkably good: .60, .63, and .59 (Cronbach, 1964). The split-half reliability is .93 while the re-test reliabilities during early professional courses, and during the first months of teaching experience, are near .70 (Arnold, 1960). All 48 Ss were administered the Minnesota Teacher Attitude Inventory.

The Achievement Test (AT) (see Appendix D) was developed directly from the classroom simulation script (see Appendix B or C). The AT is a 25 item multiple choice test designed to sample the S's knowledge of CCM. Five distracters were used in order to help increase the reliability of the test (Mehrens & Lehmann, 1973). The AT was administered to all groups (HAG, LAG, PPG, and the CG) at the completion of their respective treatments. This test was administered in a Posttest Only Design thereby allowing the CG results to serve as the pretest for all other groups.

To establish content validity for the Achievement Test the researcher used 12 Ss randomly selected from the parent population and randomly assigned to one of two groups. Each group contained 6 Ss. Each S in group X was given the script on classroom contingency management and asked to read it. After the S had finished reading the script she was given the Achievement Test and asked to complete it. Ss in group Y, the control group, were given no treatment, only asked to complete the Achievement Test.

The responses of both groups were subjected to an item analysis and found to have a difficulty level between .10 and .80 with 15 questions having a difficulty level between .40 and .70. All items were retained in the test. The more difficult items were used to give the test a sufficiently high ceiling and the easier items to give the Ss some feeling of success while taking the test. Three items had a difficulty level of .80.

The Kuder-Richardson (KR-20) method for establishing reliability was also calculated using the results from the previously mentioned 12 Ss (Anastasi, 1968). The AT was found to have a reliability of .87.

An analysis of variance was performed on the achievement scores of the two groups as a check on the validity of the AT ($F = 76.03$, df 1/10, $p < .0001$). The scores and group means are presented in Table 1 and the results of the ANOVA are shown in Table 2 (see Appendix G).

The Interpersonal Judgement Scale (IJS) is a 6 point scale with with score ranges from 1 to 7 and was used as a check on the experimental manipulation. The items are summed to yield a score of 6 to 42. The test is designed around two simple rating scales which essentially asked the two rather straightforward questions most frequently utilized in sociometric research. After receiving an Attitude Scale on a stranger, each S was asked to indicate whether she felt that she would like or dislike this person and whether she believed she would enjoy or not enjoy working with this person. This two-item response measure has been found to have a split-half reliability of .85 (Byrne, 1965a).

In order to disguise to some degree the major purpose of the experiment and to lend credence to the instructions concerning interpersonal judgement, the two attraction scales are embedded as the last two items in the 6-point IJS (see Appendix F).

The IJS was administered as a posttest to the Model Treatment Groups (HAG and LAG). The IJS was administered to determine what effect viewing the model in the simulated events had on the Ss attraction toward the model. It was conceivable that the Ss would receive visual cues from the model during the simulation causing the Ss to modify their attitudes toward the model and become more or less attentive to him. If this were the case the difference in IJS scores between the HAG and LAG should not be significant. This would mean that the model had neutralized the effect of the FSIAS and thereby confounding the variable of similar

and dissimilar attitudes of the model as perceived by the Ss.

Research Design

The independent variables in this study were : (1) model with similar attitudes and model with dissimilar attitudes, (2) no model, (3) control group. The dependent variables were: (1) Achievement Test scores, (2) MTAI scores. Both dependent variables were amenable to a Posttest-only control group design (Campbell and Stanley, 1963, Pp. 195-97). Table 3 contains the design paradigm for the present study (see Appendix H).

This section outlines the procedures used in developing the apparatus and the design.

Apparatus

The elements involved in developing the experimental environment fall into three catagories : (1) constructing stimulus material content and development of a 25 question multiple choice achievement test, (2) stimulus material production, (3) constructing the carrel.

Constructing stimulus material content : This researcher wanted to use material that could possibly be of some benefit to the classroom teacher and that could be developed into learning packages. Classroom contingency management (CCM) techniques met both these requirements. After researching CCM techniques the researcher developed a script which would emphasize some of the more important elements involved in CCM (see Appendix B). The techniques chosen also had to lend themselves to visual representation. In other words the model had to be able to demonstrate at least part of the techniques. The topics chosen for

inclusion in the script were : (1) introduction to CCM, (2) punishment versus reinforcement, (3) appropriate verbal and non-verbal responses to children, (4) time-out and response cost techniques. A 25 item multiple choice test with 5 distracters had to be developed from this script (see Appendix D). The content validity for the test was established by pretests and the reliability was established after the test was administered with the use of the Kuder-Richardson reliability test (KR-20).

Stimulus material production : The script was given to the model one week before the simulation was to be produced. The children were given no advance opportunity to memorize their parts in hopes of capturing some degree of spontaneity. All of the needed video equipment was taken to the 4th grade classroom and set up during the first period of school. The equipment was left in the classroom for four hours so the students could adjust to its unfamiliar presence.

When the class had gone to lunch the model sat behind the teacher's desk and read the entire script while being video taped. This presentation became the base of the simulation. The children to be used for these events were chosen at random from the 4th grade class. The researcher picked as many female participants as males. After the filming was completed the entire class was recorded on video tape along with the real teacher and allowed to view the play-back.

Both video tapes were then returned to the studio for editing. When editing was complete the researcher had a 20 minute presentation on CCM techniques with a lecturer and simulated events (see Appendix B).

The script used for the classroom simulation was then modified to exclude any reference to the model. This script was given to Ss in the PPG. The PPG was required to read this script during their treatment.

Constructing the carrel : A carrel was constructed primarily to produce a closed environment for the Ss. The carrel contained a 12" television.

Procedure

HAG : First Experimental Group (model-similar attitudes). Each HAG S was given a portfolio and asked to read the contents as described by spoken instructions given by the researcher (see Appendix E). When the S had finished reading the contrived results of the model's attitude survey she was asked to sit back and watch the presentation on the television which was to follow. When the presentation was completed the S was asked to answer the 25 item multiple choice test (see Appendix D). The S was told that the results of this test in no way reflected on her personally. When the S completed the 25 item test she was asked to fill out the 6 item IJS(see Appendix F). When the S had completed this task she was told that there was only one more test and asked to complete the MTAI.

LAG : Second Experimental Group (model with dissimilar attitudes).

Each LAG S received exactly the same instructions as the HAG Ss. The only difference between the HAG Ss and LAG Ss was that the HAG Ss portfolios contained contrived attitude surveys of the model which were similar to their own attitudes while the LAG Ss received portfolios which depicted the model as having attitudes dissimilar to the Ss own.

PPG : Third Experimental Group (No-Model). Each PPG S was given the modified script of the simulation. References to the model had been deleted from this script (see Appendix C). They were told to read the script carefully. When the S had finished reading the script she was asked to take the 25 item achievement test. After the S had completed the AT she was asked to take the MTAI.

CG : Control Group (no formal treatment--asked only to read a 15 minute presentation on Higher Education). Each CG S was given a short article on Higher Education. When the S had finished reading the article she was asked to take the 25 item multiple choice test. When the S had completed this test she was asked to take the MTAI.

Data Analysis

The data generated by this experiment were subjected to a Multivariate Analysis of Variance (MANOVA). The researcher used the computer in conjunction with the Biomedical Program 12V (see Appendix I). Although the MANOVA is a very comprehensive analysis and extremely capable of answering the question, "Did anything happen in this experiment?" it was felt by this researcher that a "softer" statistical analysis should be used to examine the specific hypotheses. The statis-

tical test which was used to test these hypotheses was the a priori or planned comparisons technique (T method or TukeyA). The MS_{error} or Mean Square Error calculated by the MANOVA was used in the above mentioned comparison. Although the Biomedical Program 12V is primarily used to run a MANOVA statistic this researcher held all but one group fixed on each computer run and thereby obtained an Analysis of Variance (ANOVA) statistic for each set of data.

CHAPTER IV

RESULTS

This chapter reports the results of the statistical tests used to test the hypotheses stated on page 3.

Interpersonal Judgement Scale Results : This scale was designed to establish the degree of attraction one person feels toward another. The IJS was used in this experiment primarily as a check to assure that the Ss in the HAG and LAG had not changed their attitudes toward the model after exposure to the model during the presentation.

An IJS score was obtained for each S by administering the IJS as a paper and pencil posttest. The possible range of scores was between 2 (extreme dislike for the model) to 14 (extreme liking for the model). The mean scores from the HAG and LAG were tested for a significant difference at the .05 level of significance using the Biomedical Program BMD12V (see Appendix I). The Ss scores, group means, standard deviations, and the analysis of variance are presented in Table 4 and Table 5.

The results showed a significant difference between the means of Ss who were positively attracted to the model ($\bar{X} = 10.92$) and Ss who were less attracted to the model ($\bar{X} = 8.25$, $F = 14.86$, $df = 1/22$, $p < .001$). A strength of association, omega squared (W^2), was also calculated and found to be equal to .38. This result indicates that 38%

Ss Scores and Group Means on the Interpersonal Judgement Scale

Table 4

Group 1	Group 2
13	13
12	9
12	9
12	8
12	8
12	8
11	8
11	8
10	8
10	7
9	7
7	6
$\bar{X}_9 = 10.92$	$\bar{X}_{10} = 8.25$
S.D. = 1.68	S.D. = 1.71

Results of ANOVA Performed on IJS Means for Groups 1 and 2

Table 5

SOURCE	SS	DF	MS	F	P
BETWEEN GROUPS	42.667	1	42.667	14.86	< .001
WITHIN GROUPS	63.167	22	2.871		
TOTALS	105.833	23			

of the variance in the IJS scores of the HAG and LAG is accounted for by the dissimilar attitudes these groups held toward the model.

Achievement Test Results : Hypotheses One and Two. An AT score was obtained for each S by administering the AT as a 25 item paper and pencil posttest. The mean scores from the four experimental groups were tested for a significant difference at the .05 level of significance. The Ss' scores, group means and standard deviations are presented in Table 6. Table 7 gives the results of the ANOVA performed on the data from all four groups.

These results indicated a significant main effect. The T-method (Tukey, 1962) for comparing individual groups in the design was therefore justified and performed. Table 8 gives the results of the Tukey test for significance. The results of Tukey's comparison showed a significant difference ($p < .05$) between the means of the HAG ($\bar{X} = 16.42$) and the LAG ($\bar{X} = 13.67$). This result indicated that the group which was positively attracted to the model achieved more from him than the group which was less attracted to the model. The strength of association, omega square (W^2), was also calculated and found to be equal to .37. The results of the W^2 test indicated that 37% of the variance in the AT scores of the HAG and LAG is accounted for by the dissimilar attitudes these groups held toward the model.

The results of the Tukey Comparison showed no significant difference between the mean of Ss who had a model presentation and were pos-

Individual Scores and Group Means
on the Achievement Test

Table 6

GROUP 1 HAG	GROUP 2 LAG	GROUP 3 PPG	GROUP 4 CG
21	19	20	8
20	16	19	8
19	16	19	7
18	16	18	7
17	14	18	7
17	14	18	6
15	14	17	6
15	13	16	6
15	12	15	6
14	12	15	6
13	12	14	6
13	66	13	5
$\bar{X}_1 = 16.42$	$\bar{X}_2 = 13.67$	$\bar{X}_3 = 16.83$	$\bar{X}_4 = 6.58$
S.D. = 2.56	S.D. = 3.06	S.D. = 2.11	S.D. = .87

Results of ANOVA Performed on AT
Means for All Groups

Table 7

SOURCE	SS	DF	MS	F	P
BETWEEN GROUPS	809.078	3	269.69	46.32	$< .0001$
WITHIN GROUPS	256.172	44	5.82		
TOTALS	1065.250	47			

Group Comparisons of the
AT Using Tukey's Multiple
Comparison Procedures

Table 8

Comparison Groups	Comparison Number	P*
(HAG) 1 and 2(LAG)	3.9480	< .05
(HAG) 1 and 3(PPG)	.5982	ns**
(HAG) 1 and 4(CG)	14.1170	< .005
(LAG) 2 and 3(PPG)	4.5462	< .025
(LAG) 2 and 4(CG)	10.1690	< .005
(PPG) 3 and 4(CG)	14.7150	< .005

* Using 4 and 44 degrees of freedom and an alpha of .05 it was determined from Glass & Stanley's (1970) Table F that a value of 3.791 or better was needed to reach significance. With an alpha of .025 a value of 4.197 or better was needed to reach significance. With an alpha of .005 a value of 5.053 or better was needed to reach significance.

** Not significant at the .05 level.

itively attracted to the model ($\bar{X} = 16.42$) and the mean of Ss who had only a printed presentation ($\bar{X} = 16.83$).

The results showed a significant difference ($p < .025$) between the means of Ss who had a model presentation and were in the LAG ($\bar{X} = 13.67$) and Ss who were in the PPG ($\bar{X} = 16.83$). This result indicated that the group which had the printed form of CCM learned more than the group which had a model toward which they were negatively attracted.

The results of the Tukey Comparison also showed a highly significant difference ($p < .005$) between the means of the Ss in the CG ($\bar{X} = 6.58$) and Ss who were in the HAG, LAG and PPG ($\bar{X} = 16.42, 13.67$ & 16.83 respectively).

Minnesota Teacher Attitude Inventory Results : Hypotheses Three. The second area of interest is concerned with the analysis of data relative to the attitudes of the Ss toward elementary and secondary students after the Ss received treatment. The four experimental groups were tested for a significant difference at the .05 level of significance. The group means and standard deviations are presented in Table 9 and the results from the ANOVA performed on the data are shown in Table 10.

The results of the ANOVA showed no significant difference between the MTAI score means of the four groups involved in the experiment. No further computations were performed on these data.

Ss Scores and Group Means on the MTAI

Table 9

GROUP 1 HAG	GROUP 2 LAG	GROUP 3 PPG	GROUP 4 CG
-1.16	.54	.90	1.31
1.00	.26	.71	.67
- .83	.21	.67	.23
.80	-.02	.63	.21
.47	-.35	.33	-.06
.37	-.52	.26	-.44
.20	-.52	-.39	-.59
.20	-.63	-.44	-.75
.17	-.67	-.46	-.92
-.25	-.71	-.75	-.93
-.40	-2.33	-1.28	-.95
-1.33	-2.44	-1.60	-2.86
$\bar{X}_5 = .24$	$\bar{X}_6 = -.598$	$\bar{X}_7 = -.118$	$\bar{X}_8 = -.423$
S.D. = .74	S.D. = .93	S.D. = .83	S.D. = 1.09

Results of ANOVA Performed on MTAI Means for All Groups

Table 10

SOURCE	SS	DF	MS	F	P
BETWEEN GROUPS	4.876	3	1.625	2.076	ns*
WITHIN GROUPS	34.444	44	0.783		
TOTALS	39.320	47			

*Not significant at the .05 level.

CHAPTER V

SUMMARY, CONCLUSIONS AND SUGGESTIONS FOR FURTHER RESEARCH

Summary

The primary purpose of this study was to attempt to determine whether positive and negative attraction toward a teacher affects the student's ability to learn from that teacher. An additional goal was the investigation of the effects of learning classroom contingency management on pre-service teachers attitudes toward students in grades K through 12. The third and final goal of this study was to investigate the effects of a simulated presentation versus a printed presentation on the learning of classroom contingency management.

This study had as areas of investigation a learning variable (effects of attraction on learning from a teacher on videotape) and a methodology variable (effects of a classroom simulator used to implement the first variable). The study drew upon two lines of previous work as foundation for the study. First, drawing from theory in modeling, imitation and attraction from Bandura (1973), Sapolsky (1960 & 1965), Lott and Lott (1966), Byrne (1971) and others, an experiment was devised which attempted to determine whether positive and negative attraction toward a teacher affects the student's ability to learn from that teacher. The previous work in behavioral simulations by Cruickshank (1971), Kersh (1965), Vlcek (1966), Ragan (1970 & 1971) and others provided a base for investigation of the effects of a simulated presentation versus a printed presen-

tation on the learning of classroom contingency management. Interestingly, the two areas of previous work were far from discrete or separate. For example, a genesis for the simultaneous consideration of simulation and modeling was from Ragan's 1970 study involving simulated teacher-student confrontations, which indicated that an important area for further work would be modeling effects in classroom simulators.

In an earlier study by Bandura (1974) he pointed out that the attention people give to models is affected by the interpersonal attraction between the person and the model. Although Bandura made reference to television personalities who exhibited generally acceptable attitudinal patterns in order to be accepted by a large audience, the present study draws upon Bandura's theory in a more limited context. His theory of increased attraction stimulating increased attention toward the model was examined in this study but Bandura was dealing with general attitudinal characteristics and this study used an instrument, the FSIAS, in order to control to some extent the degree to which the S and model varied in attitude.

Other studies by Sapolsky (1960), Lott and Lott (1970) and Shaw and Shaw (1962) have also investigated the variable of interpersonal attraction on the effects of the subject's responses toward a group or toward the experimenter. This researcher hoped to investigate the affects of interpersonal attraction on learning per se. The results of this study were supportive of earlier studies as far as the generalization can be drawn. That is to say attraction toward a model does seem to affect the S's ability to learn from that model.

The second variable under consideration was the effects of a simulated presentation versus a printed presentation on subsequent learning. Although no significant difference was found using these two modes for presenting information this study does support earlier studies in this area by Kersh(1963 & 1965), Ragan (1970) and Cruickshank (1966). It was pointed out earlier that even though these studies did not yield a difference in their separate results, the researchers did conclude that simulation was superior to existing methods of instruction for several reasons. One reason was that simulated events could be controlled, evaluated and improved in effectiveness much more easily than existing methods of instruction and in most cases the simulations were less expensive to administer than the methodologies they supported or replaced.

Three instruments were used for data gathering. All three were administered as posttests. 1) To measure how much the S had learned about CCM a 25 item multible choice test was constructed and validated. This test, designated AT, was administered to all Ss in the same carrel as that used for treatment. 2) To measure changes in Ss attitudes toward students the Minnesota Teacher Attitude Inventory (MTAI) was administered to all Ss in the same carrel as that used for treatment. 3) The third and final test, the Interpersonal Judgement Scale (IJS), was administered to Ss in the HAG and LAG only as a measure of the degree to which these Ss were positively or negatively attracted to the model in the simulated presentation.

Findings

The results of the analysis of the AT data indicated a significant

difference between the HAG and the LAG. The CG was also shown to be significantly different from all other groups. No significant difference in AT data was found between the HAG and the PPG. The finding concerning the difference between the HAG and the LAG support and add to earlier sttudies by Sapolsky (1960), Lott and Lott (1970), Shaw and Shaw (1962) and others.

The results of the analysis of the MTAI data did not point to any significant difference between groups. It was concluded that any difference between groups in attitudes toward students was due to chance. It is possible that the non-significance in this area could be attributed to one or more of the following factors: 1) Cognitive learning may have little effect on attitude change (Insko, 1967, Ostrom, 1968). 2) The Ss were not asked to demonstrate or allowed to practice their skills of CCM and therefore had not developed any new security in handling classroom situations involving children. 3) The instrument used to measure the Ss attitude change (MTAI) might not have been sensitive enough to any change which did occur.

The results of the analysis of IJS data indicated a significant difference between the HAG and the LAG. This test was administered primarily as a check on the attitudes of Ss in groups 1 and 2 toward the model after viewing the modeled presentation. From these results it can be concluded that the model did not have a significant effect on the Ss as far as changing their attitudes toward him through his visual or verbal cues.

Discussion

The results obtained in the area of attraction were consistent with the expectation that a higher degree of attraction toward the model may result in increased attention on the part of the observer toward the model and thereby facilitate increased learning on the part of the observer. This finding supports and adds to several previous studies in various ways.

In a study by Sapolsky (1960) it was found that when there was either high attraction or compatibility between S and E, the reinforcing value of "mmm-hmm" was enhanced, presumably by the additional reinforcing quality that E represented. When the attraction between S and E was low, no significant increase in the use of the reinforced pronouns occurred during the acquisition period of either experiment. Here Sapolsky states that "the personal quality of E can here be viewed as having taken on the aspects of an aversive stimulus which resulted in a decrement in the observed strength of the conditioned response". This researcher believes that the present study is analogous to Sapolsky's experiment in as far as the learning of the Ss is concerned although the task varied.

This researcher proposes that the attention process of the Ss were affected in both the present study and Sapolsky's study although Sapolsky identifies his main effect as the Es acting as an "aversive stimulus" or as having an "additional reinforcing quality".

Were Sapolsky's study identifies the effect of the E on the S the present study has tried to identify the process occuring within the S, that of attention to the E.

In another study by Lott and Lott (1970) the Ss exhibited increased attention to liked persons as opposed to disliked persons. The following examples were cited : 1) S's spent more time looking at photographs of peers they liked most and 2) chose boxes covered with the photos of most liked peers when looking for a hidden coin. In addition, liked peers were drawn by first grade children in 1) significantly greater detail and 2) with larger heads relative to bodies (Lott and Lott, 1970).

Although no difference was found between the simulated presentation this researcher would like to state again the conclusion drawn by many researchers in this field, that is even if simulation does not show a significant difference when compared with existing methods of instruction it is still superior to existing methods of instruction for several reasons. One reason was that simulated events could be controlled , evaluated and improved in effectiveness much more easily than existing methods of instruction and in most cases the simulations were less expensive to administer than the methodologies they supported or replaced.

One of the more difficult tasks in evaluating any piece of research is in determining its broad implications for further research and for application.

Concerning the latter problem of application several practical situations are brought to mind.

The first of which would be a student in any setting who is constrained to learning from a model. In this case it would seem to be imperative to assess the student's attitudes toward the model before any evaluations were made of the students learning from that model. In some cases it may be necessary, if practical, to supply the student with a more compatible model. In yet another instance it may be found that a model displays generally negative attitudes which affect many learners and therefore it would enrich the learning environment if the model were replaced.

Another situation which could be contrived using real or simulated teaching methods would be that of establishing a learners attitudes and developing in the learner, through the use of attitude surveys, a more positive feeling toward the model. These attitude surveys need not be real but a monitoring systems on the learner should be developed in order to find out if his attraction has changed toward the model through cues he obtains from the model.

This research also points to the need for the model to make a conscious effort toward establishing positive relationships with his learners. As mentioned in the introduction to this study our educational endeavors seem to have either ignored the role of interpersonal attraction in the learning process or have wittingly or unwittingly fostered negative situations in the learning environment.

Conclusions

The researcher regards this study as having made a contribution in two ways. First, it has helped to clarify how the variable of attraction toward a teacher affects the attention the student will give to that teacher. Second, a simulated package to be used as an introduction to CCM techniques has been developed for future use.

Since the results of analysis showed no significant difference between simulated presentation and the printed form on the achievement test it must be concluded that the simulation had no appreciable effect on learning as compared to the printed format. It is felt by the researcher and pointed to in the results of analysis of the MTAI data that a difference in the formats does exist but not in the cognitive domain (achievement test). The mean for the HAG on the MTAI was .24 while the mean for the PPG was -.12. While these results must be accepted formally as occurring by chance the researcher feels that further research should include more experiments directed toward and concerned with the affective domain. One possible approach would be the development of a more sensitive instrument in this domain.

Another aspect of the researcher's total design which could be expanded upon was the behavioral measurement of treatment effects. Because of limited resources no behavioral analysis was employed.

Still another condition which would have added to the present study would have been an additional group receiving the printed format and also dividing the two printed format groups into positive and negative

attraction toward the author of the printed material. This would have allowed for a more positive comparison between groups.

The researcher feels that this study can have implications which may be of interest to public school officials. One might speculate from evidence which this study provides that everywhere in the public school system many students may fail to achieve at their maximum capability because of nothing more than a real or perceived difference in the teachers' attitudes as compared to their own.

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APPENDIX A

Fifty-Six Item Attitude Scale

Name:_____ Age:_____ In Teacher Certification
Class: Fr.___ Soph.____ Jr.____ Sr.____ Program ? YES___ NO___

1. Fraternities and Sororities (check one)

__I am very much against fraternities and sororities as they usually function.
__I am against fraternities and sororities as they usually function.
__To a slight degree, I am against fraternities and sororities as they usually function.
__To a slight degree, I am in favor of fraternities and sororities as they usually function.
__I am in favor of fraternities and sororities as they usually function.
__I am very much in favor of fraternities and sororities as they usually function.

2. Western Movies and Television Programs (check one)

__I enjoy western movies and television programs very much.
__I enjoy western movies and television programs.
__I enjoy western movies and television programs to a slight degree.
__I dislike western movies and television programs to a slight degree.
__I dislike western movies and television programs.
__I dislike western movies and television programs very much.

3. Undergraduates Getting Married (check one)

__In general, I am very much in favor of undergraduates getting married.
__In general, I am in favor of undergraduates getting married.
__In general, I am mildly in favor of undergraduates getting married.
__In general, I am mildly against undergraduates getting married.
__In general, I am against undergraduates getting married.
__In general, I am very much against undergraduates getting married.

4. Situation Comedies (check one)

__I dislike situation comedies very much.
__I dislike situation comedies.
__I dislike situation comedies to a slight degree.
__I enjoy situation comedies to a slight degree.
__I enjoy situation comedies.
__I enjoy situation comedies very much.

5. Belief in God (check one)

__I strongly believe that there is a God.
__I believe that there is a God.
__I feel that perhaps there is a God.
__I feel that pergaps there is no God.
__I believe that there is no God.
__I strongly believe that there is no God.

6. Professors and Student Needs (check one)

__I feel that university professors are completely indifferent to student needs.
__I feel that university professors are indifferent to student needs.
__I feel that university professors are slightly indifferent to student needs.
__I feel that university professors are slightly concerned about student needs.
__I feel that university professors are concerned about student needs.
__I feel that university professors are very much concerned about student needs.

7. Draft (check one)

__I am very much in favor of the draft.
__I am in favor of the draft.
__I am mildly in favor of the draft.
__I am mildly opposed to the draft.
__I am opposed to the draft.
__I am very much opposed to the draft.

8. Necking and Petting (check one)

__In general, I am very much against necking and petting among couples in college.
__In general, I am against necking and petting among couples in college.
__In general, I am mildly against necking and petting among couples in college.
__In general, I am mildly in favor of necking and petting among couples in college.
__In general, I am in favor of necking and petting among couples in college.
__In general, I am very much in favor of necking and petting among couples in college.

9. Smoking (check one)

__In general, I am very much in favor of smoking.
__In general, I am in favor of smoking.
__In general, I am mildly in favor of smoking.
__In general, I am mildly against smoking.
__In general, I am against smoking.
__In general, I am very much against smoking.

10. Integration in Public Schools (check one)

__Racial integration in public schools is a mistake, and I am very much against it.
__Racial integration in public schools is a mistake, and I am against it.
__Racial integration in public schools is a mistake, and I am mildly against it.
__Racial integration in public schools is a good plan, and I am mildly in favor of it.
__Racial integration in public schools is a good plan, and I am in favor of it.
__Racial integration in public schools is a good plan, and I am very much in favor of it.

11. Comedians Who Use Satire (check one)

__I very much enjoy comedians who use satire.
__I enjoy comedians who use satire.
__I mildly enjoy comedians who use satire.
__I mildly dislike comedians who use satire.
__I dislike comedians who use satire.
__I very much dislike comedians who use satire.

12. Acting on Impulse vs. Careful Consideration of Alternatives (check one)

__I feel that it is better if people always act on impulse.
__I feel that it is better if people usually act on impulse.
__I feel that it is better if people often act on impulse.
__I feel that it is better if people often engage in a careful consideration of alternatives.
__I feel that it is better if people usually engage in a careful consideration of alternatives.
__I feel that it is better if people always engage in a careful consideration of alternatives.

13. Social Aspects of College Life (check one)

__In general, I am very much against an emphasis on the social aspects of college life.
__In general, I am against an emphasis on the social aspects of college life.
__In general, I am mildly against an emphasis on the social aspects of college life.
__In general, I am mildly in favor of an emphasis on the social aspects of college life.
__In general, I am in favor of an emphasis on the social aspects of college life.
__In general, I am very much in favor of an emphasis on the social aspects of college life.

14. Birth Control (check one)

__I am very much in favor of most birth control techniques.
__I am in favor of most birth control techniques.
__I am mildly in favor of most birth control techniques.
__I am mildly opposed to most birth control techniques.
__I am opposed to most birth control techniques.
__I am very much opposed to most birth control techniques.

15. Classical Music (check one)

__I dislike classical music very much.
__I dislike classical music.
__I dislike classical music to a slight degree.
__I enjoy classical music to a slight degree.
__I enjoy classical music.
__I enjoy classical music very much.

16. Drinking (check one)

__In general, I am very much in favor of college students drinking alcoholic beverages.
__In general, I am in favor of college students drinking alcoholic beverages.
__In general, I am mildly in favor of college students drinking alcoholic beverages.
__In general, I am mildly opposed to college students drinking alcoholic beverages.
__In general, I am opposed to college students drinking alcoholic beverages.
__In general, I am very much opposed to college students drinking alcoholic beverages.

17. American Way of Life (check one)

__I strongly believe that the American way of life is not the best.
__I believe that the American way of life is not the best.
__I feel that perhaps the American way of life is not the best.
__I feel that perhaps the American way of life is the best
__I believe that the American way of life is the best.
__I strongly believe that the American way of life is the best.

18. Sports (check one)

__I enjoy sports very much.
__I enjoy sports.
__I enjoy sports to a slight degree.
__I dislike sports to a slight degree.
__I dislike sports.
__I dislike sports very much.

19. Premarital Sex Relations (check one)

__In general, I am very much opposed to premarital sex relations.
__In general, I am opposed to premarital sex relations.
__In general, I am mildly opposed to premarital sex relations.
__In general, I am mildly in favor of premarital sex relations.
__In general, I am in favor of premarital sex relations.
__In general, I am very much in favor of prmarital sex relations.

20. Science Fiction (check one)

__I enjoy science fiction very much.
__I enjoy science fiction.
__I enjoy science fiction to a slight degree.
__I dislike science fiction to a slight degree.
__I dislike science fiction.
__I dislike science fiction very much.

21. Money (check one)

__I strongly believe that money is not one of the most important goals in life.
__I believe that money is not one of the most important goals in life.
__I feel that perhaps money is not one of the most important goals in life.
__I feel that perhaps money is one of the most important goals in life.
__I believe that money is one of the most important goals in life.
__I strongly believe that money is one of the most important goals in life.

22. Grades (check one)

__I am very much in favor of the university grading system as it now exists.
__I am in favor of the university grading system as it now exists.
__I am mildly in favor of the university grading system as it now exists.
__I am mildly opposed to the university grading system as it now exists.
__I am opposed to the university grading system as it now exists.
__I am very much opposed to the university grading system as it now exists.

23. Political Parties (check one)

__I am a strong supporter of the Democratic party.
__I prefer the Democratic party.
__I have a slight preference for the Democratic party.
__I have a slight preference for the Republican party.
__I prefer the Republican party.
__I am a strogn supporter of the Republican party.

24. Group Opinion (check one)

__I feel that people should always ignore group opinion if they disagree with it.
__I feel that people should usually ignore group opinion if they disagree with it.
__I feel that people should often ignore group opinion if they disagree with it.
__I feel that people should often go along with group opinion even if they disagree with it.
__I feel that people should usually go along with group opinion even if they disagree with it.
__I feel that people should always go along with group opinion even if they disagree with it.

25. One True Religion (check one)

__I strongly believe that my church represents the one true religion.
__I believe that my church represents the one true religion.
__I feel that probably my church represents the one true religion.
__I feel that probably no church represents the one true religion.
__I believe that no church represents the one true religion.
__I strongly believe that no church represents the one true religion.

26. Musical Comedies (check one)

__I dislike musical comedies very much.
__I dislike musical comedies.
__I dislike musical comedies to a slight degree.
__I enjoy musical comedies to a slight degree.
__I enjoy musical comedies.
__I enjoy musical comedies very much.

27. Preparedness for War (check one)

__I strongly believe that preparedness for war will not tend to precipitate war.
__I believe that preparedness for war will not tend to precipitate war.
__I feel that perhaps preparedness for war will not tend to precipitate war.
__I feel that perhaps preparedness for war will tend to precipitate war.
__I believe that preparedness for war will tend to precipitate war.
__I strongly believe that preparedness for war will tend to precipitate war.

28. Welfare Legislation (check one)

__I am very much opposed to increased welfare legislation.
__I am opposed to increased welfare legislation.
__I am mildly opposed to increased welfare legislation.
__I am mildly in favor of increased welfare legislation.
__I am in favor of increased

29. Creative Work (check one)

__I enjoy doing creative work very much.
__I enjoy doing creative work.
__I enjoy doing creative work to a slight degree.
__I dislike doing creative work to a slight degree.
__I dislike doing creative work.
__I dislike doing creative work very much.

30. Dating (check one)

__I strongly believe that girls should be allowed to date before they are in high school.
__I believe that girls should be allowed to date before they are in high school.
__I feel that perhaps girls should be allowed to date before they are in high school.
__I feel that perhaps girls should not be allowed to date until they are in high school.
__I believe that girls should not be allowed to date until they are in high school.
__I strongly believe that girls should not be allowed to date until they are in high school.

31. Red China and the U. N. (check one)

__I strongly believe that Red China should not be admitted to the U. N.
__I believe that Red China should not be admitted to the U. N.
__I feel that perhaps Red China should not be admitted to the U. N.
__I feel that perhaps Red China should be admitted to the U. N.
__I believe that Red China should be admitted to the U. N.
__I strongly believe that Red China should be admitted to the U. N.

32. Novels (check one)

__I dislike reading novels very much.
__I dislike reading novels.
__I dislike reading novels to a slight degree.
__I enjoy reading novels to a slight degree.
__I enjoy reading novels.
__I enjoy reading novels very much.

33. Socialized Medicine (check one)

__I am very much opposed to socialized medicine as it operates in Great Britain.
__I am opposed to socialized medicine as it operates in Great Britain.
__I am mildly opposed to socialized medicine as it operates in Great Britain.
__I am mildly in favor of socialized medicine as it operates in Great Britain.
__I am in favor of socialized medicine as it operates in Great Britain.
__I am very much in favor of socialized medicine as it operates in Great Britain.

34. War (check one)

__I strongly feel that war is sometimes necessary to solve world problems.
__I feel that war is sometimes necessary to solve world problems.
__I feel that perhaps war is sometimes necessary to solve world problems.
__I feel that perhaps war is never necessary to solve world problems.
__I feel that war is never necessary to solve world problems.
__I strongly feel that war is never necessary to solve world problems.

35. State Income Tax (check one)

__I am very much opposed to a state income tax.
__I am opposed to a state income tax.
__I am mildly opposed to a state income tax.
__I am midly in favor of a state income tax.
__I am in favor of a state income tax.
__I am very much in favor of a state income tax.

36. Tipping (check one)

__I am very much opposed to the custom of tipping.
__I am opposed to the custom of tipping.
__I am mildly opposed to the custom of tipping.
__I am mildly in favor of the custom of tipping.
__I am in favor of the custom of tipping.
__I am very much in favor of the custom of tipping.

37. Pets (check one)
__I enjoy keeping pets very much.
__I enjoy keeping pets.
__I enjoy keeping pets to a slight degree.
__I dislike keeping pets to a slight degree.
__I dislike keeping pets.
__I dislike keeping pets very much.

38. Foreign Movies (check one)
__I enjoy foreign movies very much.
__I enjoy foreign movies.
__I enjoy foreign movies to a slight degree.
__I dislike foreign movies to a slight degree.
__I dislike foreign movies.
__I dislike foreign movies very much.

39. Strict Discipline (check one)
__I am very much against strict disciplining of children.
__I am against strict disciplining of children.
__I am mildly against strict disciplining of children.
__I am mildly in favor of strict disciplining of children.
__I am in favor of strict disciplining of children.
__I am very much in favor of strict disciplining of children.

40. Financial Help from Parents (check one)
__I strongly believe that parents should provide financial help to young married couples.
__I believe that parents should provide financial help to young married couples.
__I feel that perhaps parents should provide financial help to young married couples.
__I feel that perhaps parents should not provide financial help to young married couples.
__I believe that parents should not provide financial help to young married couples.
__I strongly believe that parents should not provide financial help to young married couples.

41. Freshmen Having Cars on Campus (check one)
__I am very much in favor of freshmen being allowed to have cars on campus.
__I am in favor of freshmen being allowed to have cars on campus.
__I am in favor of freshmen being allowed to have cars on campus to a slight degree.
__I am against freshmen being allowed to have cars on campus to a slight degree.
__I am against freshmen being allowed to have cars on campus.
__I am very much against freshmen being allowed to have cars on campus.

47. Community Bomb Shelters (check one)

__I strongly believe that the federal government should provide community bomb shelters.
__I believe that the federal government should provide community bomb shelters.
__I feel that perhaps the federal government should provide community bomb shelters.
__I feel that perhaps individuals should provide their own bomb shelters.
__I believe that individuals should provide their own bomb shelters.
__I strongly believe that individuals should provide their own bomb shelters.

48. Divorce (check one)

__I am very much opposed to divorce.
__I am opposed to divorce.
__I am mildly opposed to divorce.
__I am mildly in favor of divorce.
__I am in favor of divorce.
__I am very much in favor of divorce.

49. Gardening (check one)

__I enjoy gardening very much.
__I enjoy gardening.
__I enjoy gardening to a slight degree.
__I dislike gardening to a slight degree.
__I dislike gardening.
__I dislike gardening very much.

50. Dancing (check one)

__I enjoy dancing very much.
__I enjoy dancing.
__I enjoy dancing to a slight degree.
__I dislike dancing to a slight degree.
__I dislike dancing.
__I dislike dancing very much.

51. A catholic President (check one)

__I am very much in favor of a Catholic being elected president.
__I am in favor of a Catholic being elected president.
__I am mildly in favor of a Catholic being elected president.
__I am mildly against a Catholic being elected president.
__I am against a Catholic being elected president.
__I am very much against a Catholic being elected president.

APPENDIX B

Script for Simulation of Classroom Contingency Management

Lecture

My name is Wayne Bruning and I have been asked to explain and demonstrate some of the principles of classroom contingency management. The student's you will be viewing in the demonstrations are from my own 4th grade class at Washington Elementary School.

Before demonstrating a few of the principles of classroom contingency management I would like to explain the rational behind this type of classroom management.

From research and classroom observation, we know that punishment, by itself, does not eliminate behavior. The use of punishment must be confined to the goal of temporarily suppressing behavior without providing an aggressive, punitive model, such as corporal punishment, for children to imitate. The only way this goal for punishment can be achieved is to define punishment as the removal of reinforcement. This way of looking at punishment has definite consequences for the teacher. Before the teacher can withdraw reinforcement as her means of suppressing inappropriate behavior, the student's correct responses will have to be rewarded. It is obvious that for the teacher to reduce reinforcement, the student first must experience a high level of reward.

This brings us to the first principle of classroom contingency management that of reinforcers or rewards. We can view reinforcers as being one of three distinct types: concrete, activity, or social. Some examples of concrete rewards would be candy, pencils, toys, buttons, ballons, soft drinks, and popcorn. Concrete rewards are primitive, but usually necessary. As children grow older, they learn that smiles and a "pat on the back" are more desirable than the direct accumulation of material reinforcers.

Here is an example of how concrete rewards might be administered.

Simulation

Teacher is walking around the room and sees Ann who has just completed her 10 math problems. The teacher walks up beside Ann and says:

Teacher — Well Ann, I see you have correctly answered the 10 math problems I asked you to do.

Ann — Yes, I did. (student may ad-lib)

Teacher — Here is a ballon for successfully completing your assignment and I am very happy with your work.

Lecture — A number of objections are usually raised concerning the use of "contrived" or "mechanical" rewards. These critics advocate the use of love, warmth, and affection. The only flaw in this line of thinking is that we must assume that each teacher is automatically valued as a reward. Many students do not value adult attention. Child abuse and deprivation studies clearly point to the need for concrete reinforcers, if we wish the child to value other people or to perform behaviors we describe as showing love. Children who are early deprived are often described as "empty," without feeling or emotion. They have not experienced the association of primary gratification with low voice levels, touching, and other secondary rewards. These children may value adult attention as a reward only after this attention is paired with concrete or primitive reinforcement.

Let us watch the previous classroom event again only this time notice that as I give Ann the ballon I also placed my hand on her shoulder and smiled at her.

Previous Simulated Event

Lecture — It is important to remember that the social behaviors paired with giving play an important role in the child's perception of the reward. Concrete rewards are given so that such rewards may later be taken away, enabling social and activity reinforcers to function as automatic rewards in place of the concrete reinforcement.

The second type of reward we will look at is activity reinforcement. It is one which permits the student to earn the activity and be rewarded by engaging in the activity. Some examples of activity rewards are cooperative play, reading, putting on a play, listening to recorded stories, making recordings of written stories, typing classroom assignments, learning new songs and dances, opendiscussion periods, choosing homework assign-

ments and extra classwork, leading the class to lunch, selecting film, and forming last-period clubs.

Let's watch and see how an activity reward might be administered.

Simulation — Teacher is setting at his desk and Johnny approachs him with a paper in his hand.

Johnny — Mr. Bruning I have finished my seat-work assignment.

Teacher — I am pleased with your work Johnny. Would you like to go back and paint for the remainder of the period?

Johnny — Sure!

Lecture — Johnny was rewarded by an activity reinforcer, painting at the art table. If Johnny is neat and displays the appropriate behavior at the art table he will be allowed to choose a concrete reinforcer which I will provide or another activity reinforcer such as extra ice cream at lunch or extra time in the library.

Social reinforcement is the third type of reward and is also the most difficult to administer. The verbal and nonverbal behavior which is involved is complex. Most of us have no trouble with social punishment, but find that becoming an agent of social reinforcement requires some degree of thought and practice. The "art" of social reinforcement and punishment requires the teacher to be an actress. The teacher must be able to relax and make her smile, touch, and verbal praise appear natural and real. The constantly disruptive student and the "slow" student will be difficult to reward. We usually find well-dressed, cute little boys and girls a pleasure to reward with a wink and a smile. The improvement and effort shown by the child three pages behind in his reading book or the constantly active student demand reinforcement as well, if the teacher wishes to increase their improvement.

Some acceptable nonverbal social skills which have been useful in training teachers to be agents of social reinforcement are:

Simulation — Teacher will walk up beside a student and perform the following behaviors:

(1) Smiling, hands at side, open palms

(2) Touching on back of chair or student's shoulder

(3) Standing close to student

(4) Eye-level contact with student

Lecture — Some acceptable verbal social skills are as follows:

Simulation — Teacher is sitting at his desk with a student's paper in his hand. A series of four different student's are shown standing beside him and the teacher makes one of the following comments to each student.

Teacher — Your work is improving.

Your work is getting better.

Trying harder always leads to better results.

I'm sure you will succeed.

Lecture — Most of the previous statements began with I or me. Sentences which begin with "you" and connote feelings about the student as a person are unacceptable. The student is a "good" person, regardless of his ability to complete a school assignment.

When a child is to be punished a teacher should express negative feelings about behavior, not at a person. Make verbal punishment personal and express your feelings honestly. Begin each statement with I. When you do begin with I, you may find punishing statements are less critical and "naggy." A student's character as a person is not at question, only his classroom behavior.

Here are a few examples of how you might express verbal punishment:

Simulation — This is a series of two different events. Each one contains a student standing beside the teachers desk. The teacher makes one of the following remarks to each student.

Teacher — I feel rotten about your work progress.

I feel disheartened when you behave that way.

Lecture — You may also use nonverbal communication as punishment. Here are some nonverbal punishment behaviors:

Simulation — The teacher is standing close to a student and performs the following behaviors. Narration accompaning.

Teacher — (1) Standing away from student.

(2) Looking down on student.

(3) Arms folded, arms on hips or behind back.

Lecture — The successful social reinforcer will provide clear-cut signals for the student to "read." This is especially important regarding physical nearness and touching. If the teacher practices the habit of standing close to a misbehaving student to get his attention, then the teacher's proximity to the student will be punishing and avoided by the child. The teacher must begin by letting the student's appropriate behavior "pull" him around the classroom, down the rows, and on each side, keeping in mind the behavior of the class.

Giving social reinforcers requires a great deal of skill. Unlike concrete (candy) or activity (recess) rewards, social reinforcement is not automatic and demands considerable practice and planning. The importance of learning the skills of social reinforcement stems from the role of the teacher as an imitated model. Your students will pattern their interaction with you and each other by observing the methods you indirectly communicate through your interaction with people in the school environment.

Now that we have seen how student's can recieve a high level of reward let's examine means of reducing this reward in order to shape behavior.

One of the best ways of reducing the level of reward is called 'Time Out'. The time-out method reduces the frequency of reinforcement. This method requires that the child be removed from any possible reinforcement during a period of time. The school environment must provide an isolation booth or room that does not permit the student to receive peer and adult attention: The child must be ignored. The principal's and the counselor's offices do not qualify as isolation rooms. Too often the prin-

cipal and counselor interact with children only after they have misbehaved. The end result is the child's perception of these people as agents of punishment. A child waiting in one of these offices may receive support from peer attention; gaining status by meeting the "lion" in his "den". If an isolation room is impossible, a special area within the classroom may be designated as the time-out chair or place. The teacher must not permit more than one student at a time in the time-out areas, nor use this area for any other purpose. The time-out period can be very effective for short periods of time if the child knows that he is unable to earn rewards during the time-out session. No longer than 15 to 20 minutes is recommended under any circumstances. After about 20 minutes the child typically begins to rationalize his behavior (blame the teacher) and fantasize aggression toward her. Adults behave in similar ways after a heated argument. Can't you remember saying things like, I should have said....I wish I had....Next time I'll really tell her off ? It is important to state clearly to the child which of his responses are incorrect. Many times children are confused about what behavior is appropriate in different situations. Talking out in class may be expected in class discussions, but not during seat-work; running is great outside, but not in the classroom.

Simulation showing teacher sending student to time-out area.

Another method of reducing the level of reward is called 'Response Cost.' Response cost means that inappropriate behavior costs the student an already earned reward. For example if Johnny's teacher gives a check mark for each 30-minute time period that the student has spent being a good citizen. After three hours, Johnny's behavior has earned six check marks. He misbehaves by knocking another student's books on the floor and breaking a pencil. This inappropriate behavior costs Johnny 2 check marks. Notice that with the time-out method Johnny would lose check marks because he was in the time-out area, but the marks he had previously earned would not be endangered.

These methods of punishment (time-out and response cost) are designed to temporarily suppress responding. Punishment will eliminate behavior only if the teacher can provide alternative responses which will not be punished but which will give the student the opportunity to earn the same reinforcement as the punished response.

APPENDIX C

Classroom Contingency Management
(Adapted from Dollar, 1972)

From research and classroom observation, we know that punishment, by itself, does not eliminate behavior. The use of punishment must be confined to the goal of temporarily suppressing behavior without providing an aggressive, punitive model, such as corporal punishment, for children to imitate. The only way this goal for punishment can be achieved is to define punishment as the removal of reinforcement. This way of looking at punishment has definite consequences for the teacher. Before the teacher can withdraw reinforcement as her means of suppressing inappropriate behavior, the student's correct responses will have to be rewarded. It is obvious that for the teacher to reduce reinforcement, the student first must experience a high level of reward.

This brings us to the first principle of classroom contingency management that of reinforcers or rewards. We can view reinforcers as being one of three distinct types: concrete, activity, or social. Some examples of concrete rewards would be candy, pencils, toys, buttons, ballons, soft drinks, and popcorn. Concrete rewards are primitive, but usually necessary. As children grow older, they learn that smiles and a "pat on the back" are more desirable than the direct accumulation of material reinforcers.

A number of objections are usually raised concerning the use of "contrived" or "mechanical" rewards. These critics advocate the use of love, warmth, and affection. The only flaw in this line of thinking is that we must assume that each teacher is automatically valued as a reward. Many students do not value adult attention. Child abuse and deprivation studies clearly point to the need for concrete reinforcers, if we wish the child to value other people or to perform behaviors we describe as showing love. Children who are early deprived are often described as "empty," without feeling or emotion. They have not experienced the association of primary gratification with low voice levels, touching, and other secondary rewards. These children may value adult attention as a reward only after this attention is paired with concrete or primitive reinforcement.

It is important to remember that the social behaviors paired with giving play an important role in the child's perception of the reward. Concrete rewards are given so that such rewards may later be taken away, enabling social and activity reinforcers to function as automatic rewards in place of the concrete reinforcement.

The second type of reward we will look at is activity reinforcement. It is one which permits the student to earn the activity and be rewarded by

engaging in the activity. Some examples of activity rewards are cooperative play, reading, putting on a play, listening to recorded stories, making recordings of written stories, typing classroom assignments, learning new songs and dances, open-discussion periods, choosing homework assignments and extra classwork, leading the class to lunch, selecting film, and forming last-period clubs. In each activity the child is rewarded for obeying the rules which specify appropriate activity behavior. For example, Johnny finishes his seat-work assignment 10 minutes before the bell. He is rewarded by an activity reinforcer, painting at the art table. Johnny's neatness and appropriate behavior at the art table allow him to choose a concrete reinforcer provided by the teacher or another activity reinforcer such as extra ice cream at lunch or extra time in the library.

Social reinforcement is the third type of reward and is also the most difficult to administer. The verbal and nonverbal behavior which is involved is complex. Most of us have no trouble with social punishment, but find that becoming an agent of social reinforcement requires some degree of thought and practice. The "art" of social reinforcement and punishment requires the teacher to be an actress. The teacher must be able to relax and make her smile, touch, and verbal praise appear natural and real. The constantly disruptive student and the "slow" student will be difficult to reward. We usually find well-dressed, cute little boys and girls a pleasure to reward with a wink and a smile. The improvement and effort shown by the child three pages behind in his reading book or the constantly active student demand reinforcement as well, if the teacher wishes to increase their improvement.

Some acceptable nonverbal social skills which have been useful in training teachers to be agents of social reinforcement are:

(1) Smiling, hands at side, open palms.

(2) Touching on back of chair or student's shoulder

(3) Standing close to student

(4) Eye-level contact with student.

Some acceptable verbal social skills are as follows:

(1) Your work is improving.

(2) Your work is getting better.

(3) Trying harder always leads to better results.

(4) I'm sure you will succeed.

Most of the previous statements began with your or I. Sentences which begin with "you" and connote feelings about the student as a person are unacceptable. The student is a "good" person, regardless of his ability to complete a school assignment.

When a child is to be punished a teacher should express negative feelings about behavior, not at a person. Make verbal punishment personal and express your feelings honestly. Begin each statement with I. When you do begin with I, you may find punishing statements are less critical and "naggy!" A student's character as a person is not at question, only his classroom behavior.

Here are a few examples of how you might express verbal punishment:

(1) I feel rotten about your work progress.

(2) I feel disheartened when you behave that way.

You may also use nonverbal communication as punishment. Here are some nonverbal punishment behaviors:

(1) Standing away from student.

(2) Looking down on student.

(3) Arms folded, arms on hips or behind back.

The successful social reinforcer will provide clear-cut signals for the student to "read." This is especially important regarding physical nearness and touching. If the teacher practices the habit of standing close to a misbehaving student to get his attention, then the teacher's proximity to the student will be punishing and avoided by the child. The teacher must begin by letting the student's appropriate behavior "pull" him around the classroom, down the rows, and on each side, keeping in mind the behavior of the class.

Giving social reinforcers requires a great deal of skill. Unlike concrete (candy) or activity (recess) rewards, social reinforcement is not automatic and demands considerable practice and planning. The importance of learning the skills of social reinforcement stems from the role of the teacher as an imitated model. Your students will pattern their interaction with you and each other by observing the methods you indirectly communicate through your interaction with people in the school environment.

Now that we have seen how student's can recieve a high level of reward let's examine means of reducing this reward in order to shape behavior.

One of the best ways of reducing the level of reward is called 'Time-Out'. The time-out method reduces the frequency of reinforcement. This method requires that the child be removed from any possible reinforcement during a period of time. The school environment must provide an isolation booth or room that does not permit the student to receive peer and adult attention: The child must be ignored. The principal's and the counselor's offices do not qualify as isolation rooms. Too often the principal and counselor interact with children only after they have misbehaved. The end result is the child's perception of these people as agents of punishment. A child waiting in one of these offices may receive support from peer attention; gaining status by meeting the "lion" in his "den." If an isolation room is impossible, a special area within the classroom may be designated as the time-out chair or place. The teacher must not permit more than one student at a time in the time-out areas, nor use this area for any other purpose. The time-out period can be very effective for short periods of time if the child knows that he is unable to earn rewards during the time-out session. No longer than 15 to 20 minutes is recommended under any circumstances. After about 20 minutes the child typically begins to rationalize his behavior (blame the teacher) and fantasize aggression toward her. Adults behave in similar ways after a heated argument. Can't you remember saying things like, I should have said....I wish I had....Next time I'll really tell her off ? It is important to state clearly to the child which of his responses are incorrect. Many times children are confused about what behavior is appropriate in different situations. Talking out in class may be expected in class discussions, but not during seat-work; running is great outside, but not in the classroom.

Another method of reducing the level of reward is called 'Response Cost.' Response cost means that inappropriate behavior costs the student an already earned reward. For example if Johnny's teacher gives a check mark for each 30-minute time period that the student has spent being a good citizen. After three hours, Johnny's behavior has earned six check marks. He misbehaves by knocking another student's books on the floor and breaking a pencil. This inappropriate behavior costs Johnny would lose check marks because he was in the time-out area, but the marks he had previously earned would not be endangered.

These methods of punishment (time-out and response) are designed to temporarily suppress responding. Punishment will eliminate behavior only if the teacher can provide alternative responses which will not be punished but which will give the student the opportunity to earn the same reinforcement as the punished response.

APPENDIX D

Achievement Test
for
Classroom Contingency Management

The examiner is not allowed to answer any questions once you have started the test. All questions refer to the instruction you have just received. Pick the ONE best answer. Do the best you can and signal the examiner when you have finished. If you have no questions you may start the test.

1) Punishment
   a. eliminates some types of behavior
   b. eliminates all behaviors
   c. does not eliminate any behavior
   d. does not eliminate some behavior
   e. both a & d

2) Punishment should be used to
   a. suppress behavior
   b. temporarily suppress behavior
   c. eliminate behavior
   d. modify behavior
   e. punishment has no effect on behavior

3) Punishment is defined as
   a. reinforcement
   b. cruel and unusual
   c. inflicting pain
   d. removal of reinforcement
   e. reward

4) Withdrawing reinforcement will
   a. eliminate behavior in most cases
   b. suppress inappropriate behavior
   c. suppress appropriate behavior
   d. eliminate behavior in all cases
   e. cause student's to become aggressive

5) Activity is a type of
   a. reward
   b. exercise
   c. reinforcement
   d. physical therapy
   e. both a & c

6) Which of the following is a general type of reinforcement?
   a. social
   b. physical
   c. movement
   d. candy
   e. none of the above

7) Older children should find which of the following more rewarding?
   a. candy
   b. pat on the back
   c. rest period
   d. free time
   e. toys

8) "Contrived" or "mechanical" rewards work best when the child
   a. is tired
   b. does not come from a low income family
   c. is smarter than the average student
   d. is from a low income family
   e. does not value adult attention

9) Concrete rewards are given
   a. mostly to low income children
   b. so that they may later be replaced with a different form of reinforcement
   c. because they are easier to dispense.
   d. because all children enjoy them
   e. because they are the best type of reinforcement to use with all children

10) Open-discussion period is what type of reward?
   a. Mental
   b. concrete
   c. activity
   d. physical
   e. none of the above

11) Which of the following is the most difficult type of reward to administer?
   a. concrete
   b. activity
   c. physical
   d. social
   e. mental

12) Eye-level contact with student is a form of
   a. punishment
   b. reward
   c. rejection
   d. concrete reinforcement
   e. physical reinforcement

13) "Your work is improving" is a type of
   a. concrete reward
   b. physical reward
   c. social reward
   d. mental reward
   e. both a & b

14) "You are a good boy" is a type of
   a. concrete reward
   b. physical reward
   c. social reward
   d. mental reward
   e. none of the above

15) "I feel rotten about your work progress" is a statement which
   a. is not acceptable in the classroom
   b. connots the teacher is withdrawing as a reinforcer
   c. would have negative effects on a student
   d. is used as a reinforcer
   e. both b & c

16) If the teacher practices the habit of standing close to a misbehaving student to get his attention, then the teacher's proximity to the student will be
   a. rewarding and sought by the child
   b. expected by the child
   c. accepted by the child
   d. punishing and avoided by the child
   e. both a & b

17) The teacher should learn to let the student's appropriate behavior
   a. go unrewarded
   b. pull her around the room
   c. go unnoticed
   d. be rewarded by the intirer class
   e. none of the above

18) Student's will pattern their interaction with you and each other
   a. by observing their parents
   b. by observing and interacting with other student's in their environment
   c. by observing television programs
   d. by observing the methods you indirectly communicate
   e. all the above

19) The time-out method reduces
   a. the frequency of acceptable behavior
   b. the child s' will to compete
   c. the frequency of reinforcement
   d. appropriate behavior
   e. both c & d

20) During time-out periods
   a. the child takes a break
   b. the child is isolated
   c. the child may go outside
   d. the teacher takes a break
   e. all work stops

21) When the child is sent to the principal's office
   a. it is considered a time-out period
   b. it could be a time-out period
   c. the teacher can take a break
   d. the child is reinforced
   e. none of the above

22) During time-out periods the child
   a. cannot earn rewards
   b. can still earn rewards
   c. is given more rewards
   d. is given less rewards
   e. is not interested in rewards

23) A time-out period should not last longer than
   a. 10 to 15 minutes
   b. 5 to 10 minutes
   c. 20 to 25 minutes
   d. 15 to 20 minutes
   e. 15 minutes

24) If a student loses a previously earned reward it is called
   a. time-out period lose
   b. response cost
   c. reward lose
   d. negative reinforcement
   e. both b & d

25) If the teacher gives rewards only after giving punishment
   a. the childs' behavior will improve
   b. the child will become confussed and fail to respond
   c. the childs' behavior will remain the same
   d. the child will take a time-out period
   e. the childs' behavior will become worse

KEY TO ACHIEVEMENT TEST

1) c
2) b
3) d
4) b
5) e
6) a
7) b
8) e
9) b
10) c
11) d
12) b
13) c
14) e
15) b
16) d
17) b
18) d
19) c
20) b
21) e
22) a
23) d
24) b
25) e

APPENDIX E

Spoken Instructions
Given by Researcher

1. Groups 1 & 2 only -- First instruction given, upon S's entering and being seated at desk:

> The first thing I would like for you to do is examine the contents of this portfolio. It contains the results of an attitude survey taken by the model you will presently see on the monitor. Read the results of his attitude survey carefully. Please tell me when you have finished.

1'. Group 3 only -- First instruction given, upon S's entering and being seated at desk:

> I would like for you to read this presentation on Classroom Contingency Management. Read it carefully and signal me when you have finished. Do you have any questions? Okay, let's start.

1''. Group 4 only -- First instruction given, upon S's entering and being seated at desk:

> This is a short presentation on Higher Education I would like for you to read. Do you have any questions? Okay, let's start.

2. Group 1 & 2 only -- After the S had signified that she had finished studying the models attitude survey results, the following spoken instructions were given:

> Now, I would like for you to just relax and watch the monitor. A presentation will appear shortly on Classroom Contingency Management. It is approximatly 20 minutes in length. There is no need for you to take notes. Any questions? Okay, let's start.

3. After the S's had finished viewing the simulation or reading the printed presentations, the following instructions were given:

> Here is a short 25 question multible choice test. Please read the directions at the top os the page and signal me when you have completed the test. The grade you make will in no way reflect on you so just relax and answer the questions as best you can. Please tell me when you have finished.

4. Groups 1 & 2 only -- After the S had completed the 25 item test, the following spoken instructions were given:

> This is a short 6 item test to determine your feelings about the model you have just seen. Please answer the questions and tell me when you are thru.

5. After the S's had completed the 6 item Interpersonal Judgement Scale or the 25 question multible choice test, the following spoken instructions were given:

> I know you must be getting tired but I have only one more test for you to complete. It is the Minnesota Teacher Attitude Inventory. Please answer all the questions and let me know when you have finished.

APPENDIX F

Interpersonal Judgment Scale

Your name: _____

1. Intelligence (check one)

__I believe that this person is very much above average in intelligence.
__I believe that this person is above average in intelligence.
__I believe that this person is slightly above average in intelligence.
__I believe that this person is average in intelligence.
__I believe that this person is slightly below average in intelligence.
__I believe that this person is below average in intelligence.
__I believe that this person is very much below average in intelligence.

2. Knowledge of Current Events (check one)

__I believe that this person is very much below average in his knowledge of current events.
__I believe that this person is below average in his knowledge of current events.
__I believe that this person is slightly below average in his knowledge of current events.
__I believe that this person is average in his knowledge of current events.
__I believe that this person is slightly above average in his knowledge of current events.
__I believe that this person is above average in his knowledge of current events.
__I believe that this person is very much above average in his knowledge of current events.

3. Morality (check one)

__This person impresses me as being extremely moral.
__This person impresses me as being moral.
__This person impresses me as being moral to a slight degree.
__This person impresses me as being neither particularly moral nor particularly immoral.
__This person impresses me as being immoral to a slight degree.
__This person impresses me as being immoral.
__This person impresses me as being extremely immoral.

4. Adjustment (check one)

__I believe that this person is extremely maladjusted.
__I believe that this person is maladjusted.
__I believe that this person is maladjusted to a slight degree.
__I believe that this person is neither particularly maladjusted nor particularly well adjusted.
__I believe that this person is well adjusted to a slight degree.
__I believe that this person is well adjusted.
__I believe that this person is extremely well adjusted.

5. Personal Feelings (check one)

__I feel that I would probably like this person very much.
__I feel that I would probably like this person.
__I feel that I would probably like this person to a slight degree.
__I feel that I would probably neither particularly like nor particularly dislike this person.
__I feel that I would probably dislike this person to a slight degree.
__I feel that I would probably dislike this person.
__I feel that I would probably dislike this person very much.

6. Working Together in an Experiment (check one)

__I believe that I would very much dislike working with this person in an experiment.
__I believe that I would dislike working with this person in an experiment.
__I believe that I would dislike working with this person in an experiment to a slight degree.
__I believe that I would neither particularly dislike nor particularly enjoy working with this person in an experiment.
__I believe that I would enjoy working with this person in an experiment to a slight degree.
__I believe that I would enjoy working with this person in an experiment.
__I believe that I would very much enjoy working with this person in an experiment.

APPENDIX G

Table 1

Achievement Test Scores and Means for Groups X and Y

GROUP X Read Script	GROUP Y Test Only
13	6
14	6
19	6
20	6
18	8
18	7
$\bar{X}$= 17.00	$\bar{Y}$ = 6.50
S.D. = 2.83	S.D. = .84

Table 2

Analysis of Variance of the Effects of Reading the Presentation on Classroom Contingency Management on the Achievement Test Score

SOURCE	SS	DF	MS	F	P
BETWEEN GROUPS	330.75	1	330.75	76.03	<.0001
WITHIN GROUPS	43.50	10	4.35		
TOTALS	374.25	11			

APPENDIX H

Table 3
Design Paradigm

			Experimental Events					
	Group	Scheduling of Treatment	FSIAS pre	Portfolio of Models FSIAS	Treatment	IJS post	AT post	MTAI post
R_1	HAG	R_2	F_1	P_1	X_1	I_1	A_1	M_1
	LAG	R_2	F_2	P_2	X_2	I_2	A_2	M_2
	PPG	R_2	F_3		X_3		A_3	M_3
	CG	R_2	F_4				A_4	M_4

A_1, A_2, A_3, A_4 -- Administration of the Achievement Test in a Posttest Only Design
CG-- Control Group
HAG- First experimental group.
LAG- Second experimental group.
PPG- Third experimental group.
F_1, F_2, F_3, F_4 --Administration of Fifty-Six Item Attitude Scale.
I_1, I_2, --Administration of Interpersonal Judgment Scale.
M_1, M_2, M_3, M_4 --Administration of Minnesota Teacher Attitude Inventory.
P_1, P_2 --Distrabution to S of models Fifty-Six Item Attitude Scale. Contrived responses.
R_1 -- Randomization of Ss.
R_2 -- Randomized scheduling of Ss to treatments and control.
X_1 -- Experimental treatment in which models attitudes are perceived by S to be similar to the S's own.
X_2 -- Experimental treatment in which models attitudes are perceived by S to be dissimilar to the S's own.
X_3 -- Experimental treatment in which Ss have no model and are required to read the simulation script.

APPENDIX I

a. The BMD12V program will perform Model I univariate or multivariate analysis of variance or covariance for any hierarchical design with equal cell sizes. This includes nested, partially nested and partially crossed, and fully crossed designs. The design is specified by indicating the nesting relationships of the indices. Several analyses may be performed for each problem by specifying different dependent variables or covariates on separate Subproblem Cards.

b. Output from this program includes:

(1) Covariance matrix for each analysis of variance component

(2) Cell means for each variable.

(3) For each univariate analysis of covariance:

(a) Regression coefficients under each hypothesis

(b) Analysis of variance table including source, sum of squares, mean square, degrees of freedom, and F-statistic for each analysis of variance component of the model and each covariate.

(c) Adjusted cell means

(4) For each multivariate analysis of variance or covariance the following is tabulated for each analysis of variance component and each covariate:

(a) Generalized variance

(b) U-statistic and degrees of freedom

(c) Approximate F-statistic and degrees of freedom

If regression coefficients or adjusted cell means are needed in the multivariate case, each dependent variable may be run separately as a univariate problem by specifying additional Subproblem Cards.