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THE RELATIONSHIP BETWEEN PSYCHOLOGICAL AND BEHAVIORAL CHARACTERISTICS OF PRIMARY TEACHERS AND THE CONCEPT OF CLASSROOM PSYCHOLOGICAL CLIMATE

by
Don Crichton McNeil

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
(Education and Psychology)
in The University of Michigan
1972

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P R E F A C E

Portions of the research reported herein were supported by a grant from the National Institute of Mental Health, No. T21MH 10388, July 1, 1965 to June 30, 1971.

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C H A P T E R I

INTRODUCTION

Overview

This study is primarily concerned with the complexity of functioning classroom systems and the manner in which psychological and behavioral characteristics of the teacher function within this system to generate classroom psychological climate.

Background of the Problem

Polemic over various teaching methods, and the personal characteristics of teachers, dates back at least to the concerns of the Greek philosophers, and probably to the beginnings of formal education. The Socratic method of dialogue, for example, represents an early educational methodology; it was differential, in the sense that it was recommended for the enhancement of certain educational goals. Indeed, the effectiveness of a particular method for promoting certain educational goals has characterized much of the philosophical speculation and empirical research concerning the art of teaching. Research on teaching began with the twentieth century, and has been an era characterized by an intense empiricism. During the past 70 years, it would seem

that every aspect of the teacher and her personal and teaching characteristics has been investigated. Literally thousands of measures tapping inferred or observable characteristics have been taken, and then applied to some aspect of teaching effectiveness, although the instruments and methodology utilized have not always been as sophisticated as some might desire. The most consistent problem has revolved around the choice of criterion, i.e., a satisfactory definition of what constitutes effective teaching, or the effective teacher.

This is apparently a natural result of the general assumption that education represents an applied science (James, 1896) or, perhaps more recently, a technological problem (Skinner, 1962). Much of the research has been highly pragmatic, so that the questions asked usually reflected prevailing societal agreements regarding desired educational goals. In some respects this has more closely resembled the approach of the alchemist, who was concerned with what one might put together to get gold, than the contemporary scientist, who sees validity in attempting to understand a system and its processes, perhaps even prior to attempting a desired application.

Educational literature spanning the past 75 years amply illustrates this distinction; early studies began to deal with various procedures and techniques utilized by teachers, then with students' opinions of their teachers' effectiveness or likeability, and starting about 1939, the

effectiveness of different teacher personality types (Domas, 1950). However, inspection of this voluminous literature reveals almost no consistent concern with theoretical implications or instructional models until the early 1960's.

The results of these intense empirical and survey efforts can perhaps best be summarized as highly equivocal. The publication of Gage's Handbook of Research on Teaching in 1963 highlighted this aspect of the literature (Gage, 1963). For example, the extensive review of the teacher's personality and characteristics concluded,

> Despite the critical importance of the problem and a half century of prodigious research effort, very little is known for certain about the nature and measurement of teacher personality. The regrettable fact is that many of the studies so far have not produced significant results. Many others have produced only pedestrian findings (Getzels and Jackson, p 574, 1963).

Concerning the measurement of noncognitive variables, George Stern concludes, "The studies reviewed in this chapter belong by and large to an earlier phase of research, one which might more properly be characterized as polemic rather than experimental (Stern, 1963, p 334)." Although numerous reasons for this lack of practical or heuristic value have been advanced during the past ten years, the contention of this study is that the major deficit involves the failure to develop any consistent body of theory concerning the nature of instructional environments. This could serve not only to assist in the interpretation of diverse empirical results, but also highlight those dimensions

most in need of rigorous empirical and experimental investigation, and how they are likely to interact with other factors in the social-psychological flux which characterizes the actual processes underlying any classroom situation.

The implications may be brought into somewhat clearer focus by brief consideration of some of the major assumptions which appear to underly the majority of studies reviewed. These assumptions relate to the goals of education, the nature of the learner and learning, the nature of the teacher and his effectiveness, and the nature of the teaching learning situation.

Perhaps the most significant aspect of assumptions regarding the goals of education involves their general neglect by many educational researchers. This is closely related to the familiar problem of developing appropriate criteria for the evaluation of teacher effectiveness. Many authors apparently implicitly accept those objectives most related to the current zietgiest regarding schools; the growth of the testing movement seemed to add legitimacy to this practice by providing normatively based achievement tests. Attempts at devising taxonomies of educational objectives provided at least more specific dimensions to consider when constructing criteria, although they still do not seem to have been widely used in studies of teacher effectiveness (Bloom, 1967). Certainly the growth of the mental health movement provided additional emphasis on nonacademic goals, although these were more often spelled out in terms of

behaviors or characteristics to be avoided, rather than attained. Some of these efforts discussed goals, but they were often in the form of rather indefinite long term characteristics pertaining to concepts of adjustment in maturity, or represented psychological constructs for which there were no stated mediating behavioral referrants. The result of this was a bipolar tendency to either uncritically accept presumed current school goals, or to gather data expressly for the purpose of demonstrating the desirability of one's own biases concerning educational values. Also, this seemed to lead to an inclination to assume that one classroom is much the same as another for the purposes of educational research, without considering the variance in goals and strategies from one situation to another. This contributed directly to the criterion choice problem.

Assumptions regarding the learner and the nature of learning have, of course, gone through the many conceptual shifts that have characterized American psychology during the twentieth century, with particular reference to learning theory, personality theory, and child development. However, perhaps the greatest influence has come from that most empirical of areas, testing and measurement. This has led to an extensive emphasis on product characteristics and on normative definitions. Furthermore, it has seemed to interact with an assumption that is perhaps unique in its vigorous persistence: that the direction of influence in a learning situation is considered essentially unidimensional, from the

teacher to the child, and that the teacher's task is to somehow 'fill' the child with knowledge. The educational corollary to this assumption is that there is a set 'curriculum' to be covered and, under ideal conditions, all children would move through the same steps at the same time. This is commonly referred to as 'individual differences' by educators and 'error variance' by researchers. The two implications of this in the educational research literature have been: 1) There are many studies of the effects of certain teacher behaviors on children, but few on the effects of certain child behaviors on teachers. 2) Although the notion of individual differences has become the sine qua non of the educator this refers more to rate than to content, the goals of education remaining essentially the same for all children. This has tended to inhibit the inclusion of differential goals in studies of the effectiveness of teachers, and may have contributed to the washing out of significant differences between separate classroom groups.

Perhaps the most interesting facet of assumptions concerning the teacher relates to the consistent lack of concern for any theory of teaching, or the assumption that effective teaching can be constituted by a mirror image of relevant learning theory (Gage, 1964). Initially, researchers also seemed to feel that teaching, or a teacher, was essentially the same in all situations, and that teaching effectiveness was a unitary dimension. This shifted to

a conception of effectiveness in a teacher being made up of several different competencies; however, the list of competencies quickly expanded to unmanageable proportions (Combs, 1965). When the teacher's personality traits came into focus as an important variable, the existence of some 'perfect' personality constellation for teaching was implicitly assumed. As increasing attention was paid to the definition of certain pupil change criteria representing humanistic or pragmatic values, the identification of certain teacher personality or behavioral characteristics which correlated with these criteria became an important strategy.

> Research in teacher effectiveness has frequently bypassed the fundamental problem of identifying or conceptualizing the teaching process. Describing teaching was treated as ancillary to the value problem of identifying the criteria of teacher effectiveness (Bellack and Huebner, 1960, p 247).

Much of the early research was concerned with identifying teacher characteristics which would improve the ability of administrators to make effective hiring and personnel decisions; more recently, the identification of teacher characteristics related to certain kinds of valued pupil behaviors has been urged as a way of increasing the effectiveness of teacher training programs. The importance of applied research is not at question here; the position of schools in contemporary society lends great urgency to the problem of increasing educational effectiveness. However, it is difficult to see how this can be accomplished without generating more comprehensive models of the teaching process

which can increase the level of understanding to the point where more accurate predictions can be tested.

Finally, assumptions concerning the nature of the teaching-learning situation, or the instructional environment, seem to have had clear effects on the design and interpretation of much of the research concerning teacher effectiveness. Perhaps the most noticeable and potent of these assumptions relates to the oversimplification of the classroom system. In any single classroom, it is possible to predict the potency of any number of influence dimensions, including at least the teacher, the learner, the task, the physical environment, and context effects (Gump, 1964; Biddle, 1963). The great majority of studies relating to teacher effectiveness have focused on a limited number of variables. It would seem reasonable to assume that interactions among the several influence dimensions noted above might well be camouflaging the significance of differences which may exist between the few variables normally selected for study, unless experimental manipulation is made so potent in favor of these variables that it becomes difficult to characterize the situation as normal enough to retain any generality of results. Furthermore, teacher variability at different times within one class, and certainly between different classes and teachers, has been demonstrated but seldom taken into account in experimental design, except as error variance (Biddle, 1967). There is considerable reason to assume that most classroom settings are highly complex in

terms of the numbers of variables one would have to consider in order to understand the system. However, much research implies that the few variables of interest in a particular study underlie the classroom process in some " . . . fundamental or causative fashion (Siegel and Siegel, 1967, p 265)." In view of the interactive stance expressed above, this would seem to be a naive assumption, unless one already understands the spectrum and intensity of variables involved in the classroom process, and can control them effectively within some experimental design.

Many authors also point to methodological inadequacies as being responsible for the ambiguity of much teacher effectiveness research. In particular, the persistent absence of observational data has made it difficult to interpret results in otherwise well controlled studies (Medley and Mitzel, 1963). The development of more powerful observational techniques is considered by many to be an indispensable tool in the further development of teacher effectiveness research. Flanders, after reviewing a number of techniques developed within the past decade, feels that this research, " . . . permits cautious optimism and indicates that the tools long needed for the analysis of the teaching-learning process are gradually being developed (Flanders, 1969, p 1423)." This improvement in ability to describe the teaching-learning process would seem to be highly important, although the possibly inhibiting effects of the assumptions described above obviously apply also to

the development of observation instruments, particularly since these instruments must focus on certain behaviors to be selected from an almost infinite universe of possible behaviors.

Rationale for Present Study

For some time, research strategies directed toward classroom situations have tended to focus on a small number of variables the experimenter deemed theoretically important, rigorously controlling or manipulating these dimensions and considering other differences as randomly distributed error, or nuisance variance. At the other end of the spectrum, investigators gathered large amounts of data along multiple dimensions and justified it as survey information, or generated extensive correlational matrixes in order to see what 'hung together.' Cronbach noted this distinction some years ago, and called for a rapprochement between the two approaches (Cronbach, 1958). Since that time, the interactional stance has become rather more respectable; Cronbach's own work on aptitude treatment interactions is an example of this direction as applied specifically to the learning situation (Cronbach, 1969). Much of the work done during the past ten years, most notably Flander's classroom observation system, focuses on the interaction process underlying the theoretical notion of classroom psychological climate. Theoretically, this approach is clearly articulated in the work of Harvey, Hunt, and Schroeder, who postulate both developmental levels and appropriate educational environments, and

speak of 'radiating' appropriate environments which match learner characteristics (1967). Siegel and Siegel make the assumption that, "Certain features of the instructional environment which are congruent with a particular idiosyncratic drive pattern have the power to facilitate performance (1967, p 286)." This clearly implies that investigating the efficacy of Method A versus Method B is no longer a viable educational research strategy; rather, the question becomes one of attempting to specify differential effects in order to effectively match children to that method which will most enhance their ability to gain skills. By the same token, research on teacher effectiveness might change its concern from questions relating to the effects that a nondirective teacher may have on a child's achievement (Flanders, 1967), to an attempt to clarify the parameters of classroom climate and discover its relationship to other aspects of the learning environment.

If one is to eventually have the capacity to generate an instructional environment in such a way as to maximize its fit to some idiosyncratic set of learner characteristics, it would seem crucial to first develop some comprehensive understanding of the relevant parameters of instructional environments, and the manner in which they relate together to form a gestalt that will ultimately be experienced on a phenomenal level by some particular learner. Beyond this, it would seem important to initiate this assessment in naturally occurring classroom groups as a heuristic to determine important

dimensions and their probable interaction which can later be more rigorously tested in an experimental situation. The assumption implicit in this approach involves, as an immediate goal, the understanding of various classroom processes and their interrelationships, prediction being an eventually necessary but not sufficient part of this scheme. In the present study, the classroom is seen as a system, made up of various components which tend to have characteristic relationships with each other (Mieux, 1967). This system is defined as having components which may consist of inferred psychological characteristics, behavioral patterns, or various environmental factors.

Theoretically, such an assessment of a system involves an almost limitless number of components, and essentially random selection of dimensions of interest is likely to prove as futile as this sort of research has in the past. Some selection must obviously be made on both theoretical and empirical grounds, and this selection should also relate to that general aspect of a classroom system one may be attempting to understand, and the general class of purposes to which one might desire to apply this understanding for further testing.

Therefore, while the approach being taken in this study is to view the classroom as a system and attempt to understand it, the unifying construct to be utilized is somewhat similar to that of social-emotional climate (Flanders, 1963; Medley and Mitzel, 1963). Perhaps a better

phrase for the purposes of this study would simply be psychological climate, since the parameters of the more usual term are being expanded in this study beyond those which are normally included in an operational definition. The term is used here to indicate the pervasive tone which would be experienced over time by a participant in a particular classroom setting. It is assumed that the quality of this tone will be determined by the interactive flux of components involved in the system. This is not to imply that all individuals will experience the system tone in the same manner, but it does seem evident that the experienced classroom environment is a rather potent phenomena, which must be understood in order to predict the responses of any particular child within it.

A differentiated concept of psychological climate within a classroom has obvious theoretical implications which are an important aspect of the rationale for this study. Beyond this, another purpose of the study is to gain some understanding of the relevance of different dimensions of psychological climate for assessing the probability that a deviant child might be maintained within any particular classroom setting. The work of Kounin has already demonstrated that regular classroom teachers vary along certain behavioral dimensions, and that their ability to maintain behaviorally deviant children within their classrooms is highly correlated with their position on these dimensions (Kounin, 1970). In that research, teacher behaviors were the specific focus;

this study will expand variables of interest to include other important components of the classroom system.

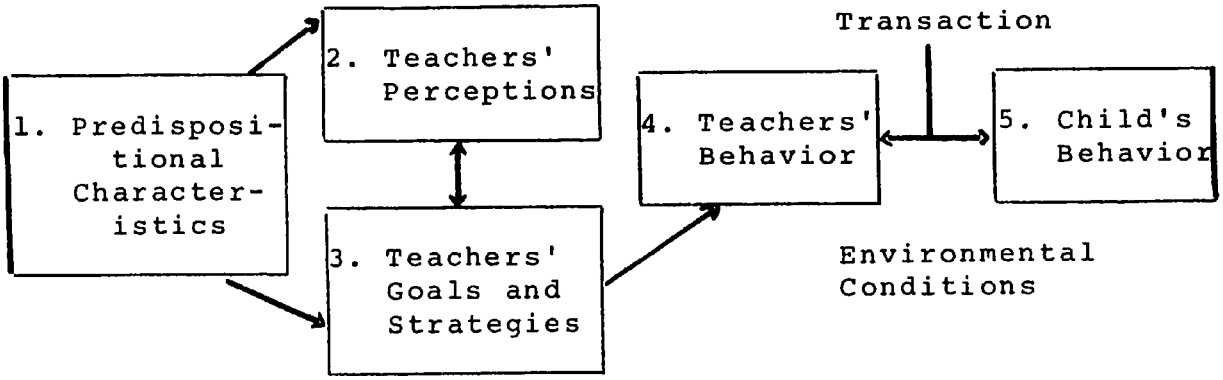
Conceptual Approach to Problem

The present study grew out of a three year program of training and research carried out within the School of Education at the University of Michigan; the focus of this project was the training process in relation to the preparation of teachers to work with disturbed preschool children (National Institute of Mental Health, 1965). Although much of this research was directed toward the training process, attention to appropriate criterion variables became necessary. This led to consideration and field testing of various observation instruments and rating scales, as well as devices to tap relevant psychological dimensions of teachers. It soon became apparent that there were serious methodological and theoretical problems which complicated the selection of appropriate criteria to measure the efficacy of the training process. Out of this grew a concern with the manner in which the teacher fits into the larger classroom system. Since this study was concerned with teachers learning to work with disturbed young children, their ability to create appropriate learning environments for these children became an important criterion issue. One way to conceptualize these learning environments is in terms of the classroom psychological climate in which the child is embedded, and to which he must make some sort of adaptation. Granting the existence of this pervasive phenomenon, it became of interest to be

able to specify its parameters, particularly those psychological and behavioral characteristics of the teacher which, along with child and context variables, generate psychological climate.

The present study will investiage four major components of the classroom system, with the goal of gaining some understanding into the manner in which they interrelate to produce a psychological climate within the classroom. Because of its pervasiveness and redundancy, this psychological climate is assumed to have potent effects upon those children experiencing it (Jackson, 1968). Indeed, certain aspects of this climate have already been demonstrated to relate to particular feeling and achievement outcomes (Flanders, 1969). It is hoped that this information will be useful in at least two ways: that the understanding will lead to the development of a model which may prove useful in describing the highly complex system which is an experienced classroom setting, and may in turn, along with input from the fields of curriculum and child development, assist in the development of a theory of instructional environments. The four components of interest are outlined briefly in Figure 1 below, along with a fifth component which is important for this conception of the classroom system, but for which only minimal information is available for this study.

Figure 1.--Psychological and Behavioral Components of a Classroom System



Components 1, 2, and 3 represent what Mitzel has termed presage variables, i.e., conditions already present at the beginning of a teaching situation (Mitzel, 1960). Components 4 and 5, by his terminology, would be considered process variables. No product variables are included in this study; the effort is to understand the relationship of certain component processes, rather than predict their results. Although the distinction between presage and process variables is a useful one, and traditional to much psychological research, the present model implies that this is not an absolute difference, but one of degree. Certainly, each participant enters the instructional situation with a history which should prove potent both in terms of his initial expectations for the experience, and his continuing perception of it. However, once an individual becomes an active part of the system, these presage variables, although perhaps prepotent, become actual components of the system, and thus accessible to modification, inhibition, or attenuation by it.

This is an important point, since once in the instructional system, these components are seen as just as much functioning parts of it as instructional behaviors, textbooks, or the Seth-Thomas clock on the wall. It is recognized that the skeletal model presented above is actually a balanced one, that the child or children in the classroom setting also has predispositional characteristics, perceptions, and goals and strategies which are components in the classroom system. However, since this study is more concerned with the teacher's contribution to the system, components are restricted to those shown above.

The first component, predispositional characteristics, represents an extensive universe of variables which might be selected for study. It was decided not to utilize demographic variables in this study, but to select psychological constructs which were compatible and had demonstrated relevance to some aspect of the instructional situation. On this basis, three factors were selected for study: self concept, need structure, and attitude structure.

The psychological construct of the self, or more specifically the self concept, has been central for numerous personality theorists. As a theoretical construct, it is being used here in the sense that Rogers discussed the progressive differentiation of the perceptual field into an elaborated concept of the self (Rogers, 1951). More specifically, the definition of Coopersmith has been used to conceptualize this dimension, "'The self' is an abstraction

that an individual develops about the attributes, capacities, objects, and activities which he possesses and pursues (Coopersmith, 1967, p 20)." The referrant, or "pivotal," aspects of the self concept are seen as being highly salient in determining its relationship to other psychological processes and behavior (Farnham-Diggory, 1968). It is usually assumed by personality theorists that the self concept must have both informational and affective aspects; the latter, or the notion of self esteem, will be utilized more extensively in this study, in particular, perceived evaluation and potency. The notion of self concept would seem to be a highly important variable in psychological studies of teacher functioning; however, it has been relatively neglected in favor of personality trait constructs (Getzels and Jackson, 1963; Stern, 1963).

The concept of need is derived from the writings of Henry Murray, particularly in relation to his statement, " . . . a construct which stands for a force . . . a force which organizes perception, apperception, intellection, conation, and action in such a way as to transform in a certain direction an existing, unsatisfying situation (1938, p 123, 124)." Murray's distinction between focal and diffuse needs will be maintained, in the sense that the relatively unique stimulus of a classroom situation may serve to signal only certain, focal needs, while for others, the expression of these needs may be much more undifferentiated.

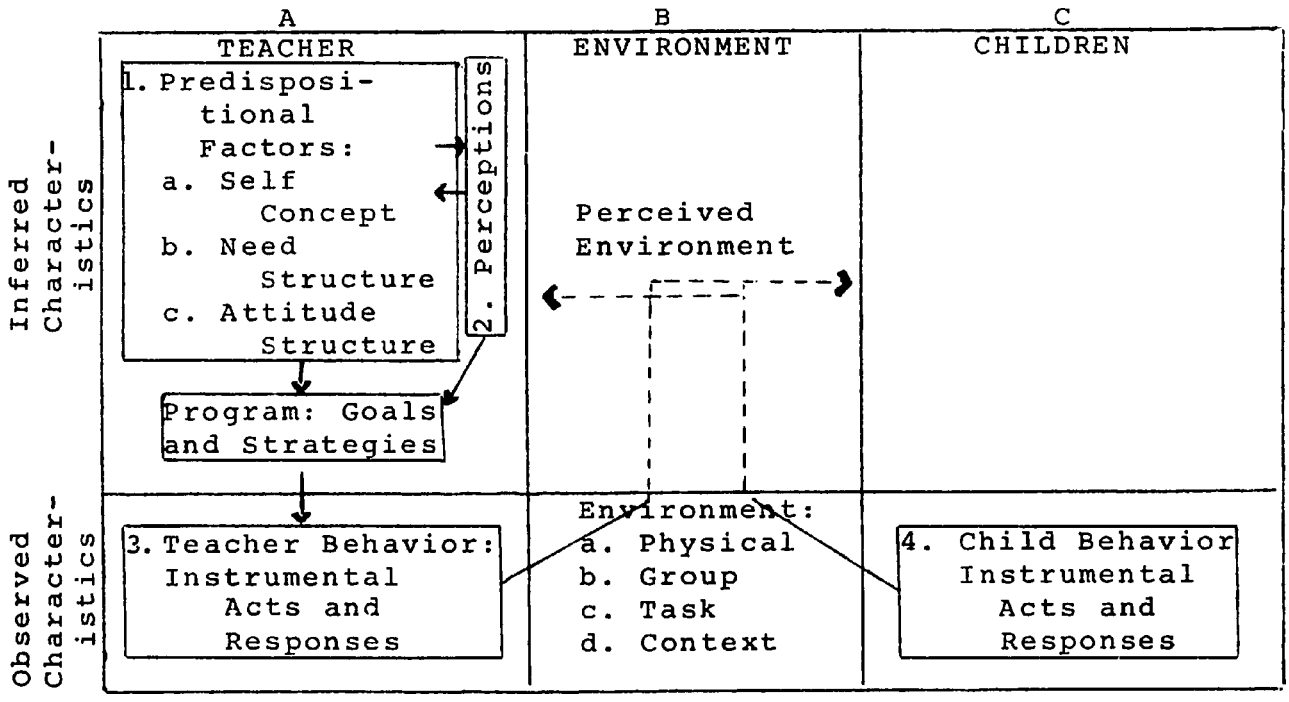
The third factor in the predispositional component is that of attitudes or, more specifically, that attitude structure which has as its object educational practices, goals, and children, particularly those who may be deviant within a classroom setting. An attitude is seen as important both in terms of organization and predisposition; "An attitude is a relatively enduring organization of beliefs around an object or situation predisposing one to respond in some preferential manner (Rokeach, 1968)." Smith, Bruner, and White conceptualize attitudes as serving an important adjustive function for the individual, " . . . at the most general level that one's opinions or attitudes serve as mediators between the inner demands of the person and the outer environment (1956, p 39)." Attitudes toward the goals and processes of education, and the place of children in them, are thus seen as important mediators for the teacher between certain internal demands, such as those related to the self concept and need structure, and external contingencies ranging all the way from the specified expectancies of the school system and the community to immediate perceptions as to the status of a certain child at any given time. They should also be important determinants of the kinds of educational and behavioral goals and strategies the teacher may decide upon, and also of her ability to shift these in order to match the characteristics of her students as closely as possible.

The second major component in the classroom system is labelled "Perceptions." Combs and Snygg state, "All

behavior, without exception, is completely determined by, and pertinent to, the perceptual field of the behaving organism (1959, p 20)." They go on to say, "By the perceptual field, we mean the entire universe, including himself, as it is experienced by the individual at the instant of action (1959, p 20)." It is assumed here that there could be multiple determinants of this unique and immediate perceptual field, and that some of these could be the dimensions previously discussed, i.e., self concept, need structure, and attitude structure. However, the dimension of Perception in this model is more closely related to content; to the content of particular perceptions which may be quite important in determining the changing nature of the teacher student interaction. The effective practice of teaching requires the ability to consistently and accurately perceive the meaning of a good many rather subtle behavioral cues, or to be an effective information processor. This seems to be the real meaning of Kounin's concept of 'with-it-ness,' which he found in teachers who are effective behavior managers (1968). In the present study, Perception will relate to the teacher's perception of certain deviant children in her classroom, and will attempt to tap both her information about what they do, and her feelings toward them. If one can assume that the presence of a behaviorally deviant child in a teacher's classroom represents a certain increased degree of stress, the content of her perception of this child should be a valid representation of her ability to perceive accurately in trying situations.

The last two components of the classroom system, the teacher's behavior and the child's behavior, are assumed to be related to the system in much the same way as those dimensions discussed above. That is, in a very real sense, they are not seen as "caused" by the teacher's attitude or self concept, but multiply determined and actively interrelated with all other components of the classroom system. In order to attempt to make this complex relationship somewhat clearer, the following expanded paradigm of the classroom system is presented. Arrows show what the direction of presumed influence might be during one behavioral or instructional cycle, but it is important to remember that once feedback is introduced into the system, influence becomes bidirectional.

Figure 2.--Paradigm of a Functioning Classroom System



As can be seen, the three columns indicate aspects of the classroom system associated with the teacher, the environment, and the child, or children. The top row contains those characteristics which are inferred; the bottom row subsumes all observable acts and characteristics. Each box contains, or represents, a system component. Only those components of dimensions which are numbered are being investigated in this study; others represent information which would have to be obtained, along with developmental data, in order to expand this into the kind of complete model which could generate more specific studies leading eventually to the development of a comprehensive theory of instruction.

In a recent provocative article, Richard Snow has attempted to apply the rationale of Egon Brunswick's probabilistic functionalism to research on teaching, making particular use of Brunswick's "lens" model and his classification of variables in relation to their remoteness from the central processes of an organism. In this context, Brunswick spoke of central, proximal, and distal cues or variables, and assumes that these variables form a causal sequence in which they are probabilistically related. Much of the research on teaching assumes a deterministic rather than probabilistic relationship between variables, e.g., teacher warmth and student satisfaction or achievement. Snow points out that, "The farther apart two variables are from one another in terms of regional reference, the more probabilistic connections must be bridged between them and, hence, the lower the

correlation (1970, p 483)." Extrapolating from this, if the interface of teacher student interaction was selected as the focus for a lens model, then behaviors might be considered proximal cues, and psychological characteristics of the participants, such as attitudes, could be characterized as distal cues. This would of course shift if the teacher or student were made the focus. It would seem that the present study could be conceptualized in the same manner. An important result of this would be that the relationship between any two components in the classroom system would be seen as probabilistic, depending on the contingencies of other components in the system, and the relative distance between the two variables of interest. The correlational strategy implicit in Brunswick's probabilistic approach would also seem well suited to idiographic analyses and the formation of patterns of cues which could then be related to more general group data.

Implications and Justification for Study

The primary purpose of this study lies in the attempt to put together comprehensive information relating to classroom systems in order to contribute information and understanding relevent to efforts to develop a model which can subsume, in an organized fashion, the impressive complexity of a group teaching-learning situation. The search for a touchstone of empirical knowledge which will allow prediction of pupil changes from teacher characteristics has not been particularly successful to this point; since much of the research

has been theoretical, there is at present no framework which will allow one to integrate the considerable fund of information concerning teaching, nor is there any way to interpret conflicting results, which crop up with disarming regularity in the literature (Gage, 1963; Flanders, 1969). One interesting alternative is to concentrate on developing understanding concerning the interrelationships of classroom processes, instead of continuing the search for more appropriate criteria and more effective predictors.

A second, more applied implication, relates to the development of effective strategies for enhancing the learning of all children in school, even those who may be considered deviant by present standards. Schools and other social agencies are showing increasing concern for the development of more effective interventions for those children who are seen as having emotional or learning difficulties within the scope of the schools' expectations and practices. The strategy of special education is currently shifting away from the provision of self contained classes for these children, and is attempting to develop interventions which will allow regular classrooms to maintain such children in a healthy and productive manner. Since most of the problems these children demonstrate in school are intimately related to their instructional environment and its concommitant psychological climate, it would seem crucial to develop the means of assessing components of these environments in order to either place children in a situation which will maximize

their ability to grow in a positive manner, or to develop more effective ways of intervening in the classroom system in order to promote change in nonproductive system relationships.

Relevant Issues

The present study is primarily concerned with three major issues: the complexity of the classroom system, interrelated aspects of this system which generate classroom psychological climate, and the effects of training programs upon various aspects of classroom psychological climate. Each of these issues will be briefly discussed, and then a set of hypotheses will be presented.

Although parsimony is a value held by many scientists, it has perhaps not yet proved a useful constraint in classroom research. As previously mentioned, studies utilizing only one or a few isolated variables have generated little explanatory power, since so many other variables are engaged in the active flux of transactions and contingencies that constitute a classroom system. One strategy which has been used to surmount this problem has involved increasing sample size, thus sometimes achieving statistical levels of significance between variables or subjects of interest. The difficulty with this is that the unaccounted variance is usually so high as to preclude the application of such group results in any particular situation. Therefore, in the present study it was decided to utilize a number of theoretically relevant psychological variables which, in concert with an

environmental context, should be related to the expression of specified classes of teacher behaviors. The paradigm proposed earlier, in Figure 2, represents an attempt to specify these variables and indicates, in a rough way, the direction of their relationships in an ongoing system. However, clearly at issue here is the appropriateness of present theoretical assumptions and research approaches to gaining understanding of the complexity of functioning classroom systems.

A second issue relates to the concept of classroom psychological climate. This concept is defined in the present study as the total atmosphere produced by a variety of interpersonal and physical factors within a classroom, which a child experiences on a redundant and pervasive basis throughout the school year, and to which he is forced to make some sort of psychological adaptation. The nature of this climate should represent a crucial learning experience in itself for a child, besides being related in an important way to his options for learning more academically oriented skills and concepts. It has often been assumed that this climate is almost automatically produced by some aspect of teacher behavior, such as the tendency to be direct or indirect. Here the issue is again related to complexity, as discussed above, since one can conceive of a teacher, categorized as direct, establishing a climate which might range from comfortable to terrifying, depending on a number of other psychological and situational

factors. In order to understand and predict these variations, it would seem necessary to have some understanding of how psychological climate is generated, and to be able to characterize it along some number of relevant dimensions. It is the contention of the present study that, in order to understand the phenomenon of climate, both psychological and behavioral dimensions must be considered as contributing factors, and that differential interactions should produce differential climates. Here again the issue is complexity, but related to the ability to describe more accurately the parameters of classroom psychological climate.

The third issue involves conceptualizing the relationship between training programs or other interventions directed at teachers, and possible change in important aspects of classroom psychological climate. It is stressed here that this is not primarily a study of change effects due to a training program. However, the fact that the study was carried out within the framework of a training program, designed to bring about modifications in teacher attitudes and skills, provided the opportunity to examine changes along certain teacher dimensions during their training experience. The rationale here is twofold: first, the effects of the program itself may tend to highlight certain salient psychological and/or behavioral aspects of the classroom system, and the kind of climate it might generate. Secondly, the possibility of change along particular teacher

dimensions during the course of the program, along with some information concerning the parameters of the classroom system, might be most helpful in more specifically conceptualizing goals and strategies of preservice or inservice training programs, or in selecting evaluation variables. Here the issue involves whether a differentiated concept of classroom psychological climate represents a more potent way in which to conceptualize and evaluate inservice training efforts.

In order to examine these issues, ten primary classrooms were selected for study. Since there were two teachers in each classroom, there was a total of twenty teachers in the sample. All of them were enrolled in an inservice training program during the duration of the study. Both psychological and behavioral data were obtained; these are detailed in Table 1 on the following page. These data were assumed to reflect different aspects of the classroom system which generate classroom climate; the psychological and behavioral dimensions were derived from the paradigm representing a classroom system presented in Figure 2. It is assumed that these dimensions relate to each other in an interactive manner, and that no one of them in isolation is truly reflective of the classroom system.

Table 1, below, shows the psychological and behavioral dimensions of concern, the instruments used to measure them, and the variables included in each instrument.

TABLE 1.--Dimensions, Instruments, and Variables Included in Present Study

Dimensions	Instruments	Variables
A. Psychological		
1. Personality	Edwards Personal Preference Inventory	1.1 Consistency 1.2 n Achievement 1.3 n Deference 1.4 n Order 1.5 n Exhibition 1.6 n Autonomy 1.7 n Affiliation 1.8 n Succorance 1.9 n Intraception 1.10 n Dominance 1.11 n Abasement 1.12 n Nurturance 1.13 n Change 1.14 n Endurance 1.15 n Heterosexuality 1.16 n Aggression
2. Self Concept	Semantic Differential	2.1 I am: Evaluative 2.2 I Am: Potency 2.3 I Would Like To Be: Evaluative 2.4 I Would Like To Be: Potency
3. Educational Attitudes	Teacher Practices Questionnaire	3.1 Content Didactic 3.2 Content Discovery 3.3 Student Didactic 3.4 Student Discovery 3.5 Social Norm Didactic 3.6 Social Norm Discovery
	Teacher Opinionnaire	3.7 Learning 3.8 Mental Health 3.9 Group Process 3.10 Development
	Semantic Differential	3.11 Children Are: Evaluative 3.12 Children Are: Potency 3.13 School Is: Evaluative 3.14 School Is: Potency 3.15 Teachers Are: Evaluative 3.16 Teachers Are: Potency 3.17 Problem Children: Evaluative 3.18 Problem Children: Potency 3.19 Mental Health: Evaluative 3.20 Mental Health: Potency
4. Teacher Perceptions	Semantic Differential	4.1 Target Child: Evaluative 4.2 Target Child: Potency
	Behavior Problem Checklist	4.3 Conduct Problem 4.4 Personality Problem 4.5 Inadequate-Immature
B. Behavioral		
5. Teacher Behavior	OScAR 4V	5.1 Teacher Directing 5.2 Teacher Enhancing 5.3 Positive Affect 5.4 Negative Affect 5.5 Demand Management Style 5.6 Benign Management Style 5.7 Student Initiations 5.8 Total Teacher Activity
6. Target Child Behavior	CASES	6.1 Resisting Behavior 6.2 Integrative Activities 6.3 Passive Withdrawal

Information concerning the design of the study, and descriptions of the instruments used, will be found in Chapter 3. Immediately following is a list containing definitions of terms as they are being used in the present study.

Definition of Terms

1. Variable - a score derived from an instrument selected to measure one of the psychological or behavioral dimensions included in the paradigm for a classroom system shown in Figure 2.
2. Dimension - one of the major components included in the paradigm of a classroom system shown in Figure 2. In the present study, there are five components: teacher personality, teacher attitudes, teacher perceptions of children, teacher behavior, and child behavior. Table 1 on the preceding page shows the variables, instruments, and dimensions utilized in the present study.
3. Affective Teacher Behavior - this is an observational category referring to specific teacher behaviors where the intent is assumed to be primarily affective, or designed to convey a certain feeling to the child.
4. Strategy Teacher Behavior - this is an observational category referring to specific teacher behaviors where the intent is assumed to be primarily instructional; e.g., asking a convergent question, giving directions, etc.

5. Informational aspects of teacher attitudes - this refers to a teacher preferring one kind of educational approach to another, e.g., a didactic or discovery teaching method.
6. Connotative aspects of teacher attitudes - this refers to how a teacher feels about certain educational concepts.
7. Informational aspects of teacher perceptions - this refers to what the teacher reports that she perceives in terms of a child's behavior, e.g., describing a child as aggressive.
8. Connotative aspects of teachers' perceptions - this refers to how the teacher feels about her perceptions, e.g., feeling negative about a child whom she describes as aggressive.
9. Predictor variables - in this study, variables from the dimensions of teacher personality needs and teacher attitudes concerning educational issues and concepts.
10. Criterion variables - in this study, variables from the dimensions of teacher perceptions of children and teacher classroom behavior.

Rationale for Hypotheses

The hypotheses listed below are derived from the paradigm of the classroom system and are related to the three issues inherent in the present study. It is assumed that the complexity of a functioning classroom system is such that relationships between single variables will tend not to be significant. For example, one might predict a significant relationship between a personality need, such as nurturance, and the extent of affective behavior a

a teacher will demonstrate in the classroom. However, her behavioral expression will also depend on the teacher's perceptions of children within the class, on her attitudes regarding her role as a teacher, her anxiety about the opinions of other adults, etc. If these several variables are seen as probabilistically, rather than causally, related, then it would be improbable to find high correlations between isolated variables. By the same reasoning, utilizing several relevant variables simultaneously as predictors should result in stronger relationships with criterion variables, such as behavioral categories.

At the same time, examination of the variability among teachers along several relevant variables might reveal subgroups having certain commonalities related to classroom climate. Consistent differences along several variables between groups may tend to camouflage relationships when subgroups are considered together. Examination of multivariate data in this way should result in the isolation of subgroups having greater face validity for understanding classroom climate, if the variables chosen are representative of different dimensions within the classroom system, rather than overlapping or redundant.

In order to accomplish this kind of analysis, psychological variables used as predictors should perhaps be selected on the basis of differential relationships to teaching behaviors. For example, personality needs may be more related to the expression of spontaneous affect by the

teacher than to behaviors indicative of various teaching strategies. The teacher's attitude structure, on the other hand, operating as a mediator between internal needs and external demands, may be more related to the expression of strategy teaching behavior than affective expression. The same point might be made concerning the teacher's perceptions of children; the content of these perceptions being more related to attitudes, the feelings about behavior related to personality needs.

Another way in which to examine the relationship between psychological teacher variables within the classroom is to consider the effects of interventions directed at the teacher, such as a training program. The program which served as a framework for the present study focused a good deal of attention on the problems of certain deviant children within the classroom, and the development of more effective strategies for teaching these children. If the training program were to be considered effective, the teachers' perceptions of these children should change, assuming that if they can find ways to help these children successfully learn, they will see them from a somewhat different and more positive perspective. In this case, it might be assumed that the connotative aspects of attitudes related to growth oriented educational concepts might also change in a positive direction. If these perceptions and feelings were reinforced by further successful teaching experiences with difficult children, it would be expected

that informational aspects of attitude structure, representing ideological beliefs, and perhaps self feelings, might also change. However, this would be doubtful within the restrictions of a short term training program. Exactly when, during this process, that a consistent change in strategy and affective behavior toward other children might occur is problematical in the light of present knowledge concerning the relationship between attitudes and behavior (Rokeach, 1968).

Hypotheses

1. The number of significant variable by variable correlations between predictor dimensions (personality and educational attitude) and criterion dimensions (teacher perceptions and teacher behavior) will not exceed chance expectations.
2. Utilization of all variables together within a predictor instrument will result in stronger relationships with criterion variables than the variable by variable correlations considered in Hypothesis 1:
   a. Personality needs will be significantly related to affective teacher behavior, but not to strategy teacher behavior.
   b. Personality needs will be significantly related to connotative aspects of the teacher's perceptions, but not to behavioral aspects.
   c. Educational attitudes will be significantly related

to strategy teacher behaviors, but not to affective teacher behaviors.

d. Educational attitudes will be significantly related to informational aspects of the teachers' perceptions of children, but not to connotative aspects of the teachers' perceptions of children.

3. Utilization of combined predictor variables from the dimensions of teacher personality and teacher attitudes will result in significant relationships with both strategy teacher behavior and affective teacher behavior.
4. Utilization of combined predictor variables from the dimensions of teacher personality and teacher attitudes will result in significant relationships with both behavioral and connotative aspects of the teachers' perceptions.
5. Dividing the total sample of teachers into subgroups on the basis of similar psychological and behavioral characteristics will result in combinations having greater face validity for the understanding of classroom psychological climate.
6. The training process will be associated with change in some dimensions of the classroom system which contribute to psychological climate:
   a. During the training program there will be no significant change in the teacher's self feelings.
   b. During the training program there will be no significant change in informational aspects of the teachers' attitude structure.

c. During the training program there will be a significant positive change in the connotative aspects of the teacher's attitude structure.

d. During the training program there will be no significant change in informational aspects of the teachers' perceptions of children.

e. During the training program there will be significant positive change in the connotative aspects of the teachers' perceptions of children.

C H A P T E R II

REVIEW OF THE LITERATURE

To say that the literature regarding characteristics of teachers and parameters of the teaching-learning situation is formidable could only be classed as euphimistic. Beginning just prior to the turn of the present century, educators and psychologists have apparently been drawn irresistably to the classroom as a major focus of application for the new but pervasive notion that human behavior and endeavors are valid phenomena to be studied by the scientific method. During these past 70 years, American teachers have submitted to an incredible assortment of probings and investigations, contributing a vast store of empirical and normative data relating to attributes ranging from their vocal characteristics to the contents of their id. They have been rated by school board members, administrators, principals, college of education faculty members, their students, and even themselves. They have spent what must amount to millions of hours filling out attitude questionnaires and personality scales, have been assessed in terms of their reaction time and their aesthetic tastes, their knowledge of educational doctrine and their ability to make psychiatric diagnoses. Surely, it is at least safe

to deduce from this mass of studies that there is something in the relationship between teacher and researcher which seems to induce extreme compliance on the teacher's part.

Beyond this, it is difficult to know what to make of this assortment of literature, much less how to approach the task of reviewing it. For the purposes of this study, in an attempt to achieve some clarity, a brief overview of research direction during the past 70 years will be presented. Then, more specifically, the focus will be directed to five general areas of interest. Most of the studies in this review will represent work done during the past twenty years. Those five areas which will be dealt with more completely include: the teacher's personality, the teacher's attitudes, the teacher's perceptions of children, the development of observational systems for classroom study, and research dealing with concepts analogous to the notion of classroom psychological climate.

Overview of Research Directions

Several comprehensive literature reviews covering work done between 1900 and 1950 are available, most particularly those by Barr (1948; 1961), Domas (1950), Domas and Tiedman (1950), and Morsh and Wilder (1954). The period from 1950 to 1960 is covered in detail in Gage's Handbook of Research on Teaching (1963). More recent reviews include those by Biddle (1967), Rosenshine (1970), and Flanders (1969). A new edition of the Gage Handbook is expected within the coming year.

In a review of the literature, Domas (1950) discussed five different general areas of research effort: teacher traits, student and administrator ratings, educational procedures and techniques, pupil growth, and personality types. From the beginning, much of the research seemed characterized by an overtly practical, pragmatic orientation. Thus, many of the research reports published between 1900 and 1950 contain sections which discuss the implications of their findings for teacher selection and hiring, evaluation for the purposes of merit pay or increased school system efficiency, and the selection of candidates for teacher training programs (Barr, 1947). While many of the earlier studies talked about prediction in order to find better teachers, by 1920 there seemed to be increasing concern with the concept of teaching efficiency. Perhaps this was partially derived from the development of mass production techniques in American industry; in any case it seemed to reach its zenith in the early thirties, with the presentation of a formula for the computation of "instructional efficiency ratios" for teachers, this quantity being defined as the ratio of actual to maximum increase in pupil learning (George, 1931).

Since much of this research was designed to predict effective teachers, its major problem was in effect built in from the beginning, i.e., the definition of an appropriate criterion. At its extreme, the logic of some studies almost defined a tautology, in the sense that some one

would be asked to select a group of effective teachers, and then the researcher would study them in order to determine what an effective teacher is. As different groups of people were asked to rate the effectiveness of teachers, it became apparent that there was a good deal of interrater variability, even if judges were rating from an essentially common perspective, e.g., administrators. When pupils were asked to rate those teachers which they felt were most effective, it was obvious that their judgements were highly discrepant from those of administrators or other school personnel (Albert, 1941). Since most studies continued to show relatively low level and sometimes contradictory correlations between different teacher characteristics and ratings of teacher effectiveness, serious students of the problem found themselves in the position of not knowing whether their criterion was ill defined, or their measures unreliable and invalid, or the dimensions they had selected to study were in fact not connected in a meaningful way with being an effective teacher. Indeed, a literature review in 1933 concluded that intelligence test scores, diagnostic tests, and personality traits do not correlate very highly with measures of teaching success (Yaukey and Anderson, 1933). However, in spite of the well recognized and much discussed difficulties inherent in supervisors' ratings, they still function as a criterion in educational research studies utilizing teacher traits such as grade point average as predictors (Elliot, 1971).

In an attempt to finesse the criterion problem, it was reasoned that changes in the student himself seemed logically related to teacher effectiveness, and could be substituted for a rater's judgement. One of the first rigorous uses of pupil gain scores as a criterion of teacher effectiveness was by Torgeson, in 1930 (Barr, 1948). Interestingly, as early as 1917, Odenwellen had considered the use of pupil achievement as a criterion, and had rejected it on the basis of the many factors which might contribute to it, thus defining issues that were to occupy researchers forty to fifty years later (Domas, 1950).

By 1948, Barr was reminding researchers that the criterion of pupil change should include characteristics other than changes in achievement test scores, which he referred to as intangibles, and was also making some distinction between short term and long term outcomes (Barr, 1948). A short time later, Morsh and Wilder discussed the criterion problem extensively, concluding that utilization of only one student gain score as a criterion measure was apt to be misleading, and recommending the use of composite change scores for this purpose (1952).

Thus, by this time the problem of teacher effectiveness was being conceived by researchers as a much more complex issue. This applied not only to criterion definition, but to the basic assumptions underlying teacher effectiveness. One of the assumptions seemingly implicit in much of the earlier research was the notion of some excellent

set of teacher attitudes and behaviors in the absolute sense, as though teachers could be ranked in terms of their distance from some hypothetical perfect teacher, and teacher effectiveness was a unitary trait. By the 1940's, however, Barr and others were suggesting that there was a good deal of situational variation depending on the goals inherent in different classroom settings, and that the qualities important for an effective algebra teacher might be considerably different than those important in an elementary school classroom (Barr, 1948).

The focus of much effectiveness research began to change during the middle 50's, with an increasing realization that data concerning the actual classroom behavior of teachers and students were necessary in order to meaningfully interpret the relationship between teacher characteristics and student changes. Since that time, there has been considerable activity related to the design and refinement of instruments and systems for the assessment of classroom behavior. Although much of the research relating observed characteristics of teacher behavior to pupil change has utilized only a few of the more popular instruments (Flanders, 1963; Medley and Mitzel, 1963), the eight volumes of Mirrors for Behavior include some 80 instruments designed to measure various aspects of classroom behavior (Simon and Boyer, 1968), and Rosenshine estimates that at least as many utilized in recent years were not included (1970).

In general, most of the major reviews which have appeared during the past 50 years have been able to report disappointingly few positive results, and have been forced to content themselves with analyses of methodological problems or reports of promising new trends for future research (Yaukey and Anderson, 1933; Barr, 1948; Morsh and Wilder, 1953; Getzels and Jackson, 1963). An exception to this is Flander's recent review, in which he sees evidence for cautious optimism in the consistency of results relating certain dimensions of teacher behavior, primarily teacher indirectness, to student gains in achievement (Flanders, 1969). However, the consistency of these teacher effects over time have recently been questioned by Rosenshine (1967), their validity by Yamamoto (1965), and their relationship appears more complex in Soar's studies of differential effects of teacher indirectness depending upon the learning task at hand and the characteristics of the learners (1968).

Studies of the Teacher's Personality

Studies focusing on the description of teacher personality characteristics, and their relationship to teacher effectiveness, began to appear in force during the early 1930's (Domas, 1950). They seemed to reach a high point in the 50's, and these studies are well reviewed in the Gage Handbook (Getzels and Jackson, 1963). Although many of these studies were intended to characterize dominant teacher personality characteristics,

utilizing a trait approach, the bulk of them attempted to relate particular trait scores to some measure of teacher effectiveness, often using administrator nominations as the criterion measure (Morsh and Wilder, 1952). Again, the assumption seemed implicit regarding some unitary dimension of teacher effectiveness, and that some particular personality profile would be characteristic of effective teachers (Cattell, 1948). The mental health movement also seemed to have considerable influence on the rationale for many of these studies, with the assumption that personality conflicts would be negatively correlated with a teacher's ability to deal productively with children (Fuller, 1946; Bowers and Soar, 1962).

A wide variety of personality assessment measures have been utilized in teacher studies, ranging all the way from empirical, normatively based inventories to projective techniques. However, a major portion of this research has utilized only a few personality inventories (Getzels and Jackson, 1963), since the interpretability of the results inevitably rests on the reliability and validity of the batteries used, and their appropriateness for this kind of study.

The instrument which has perhaps received the widest use in studies of teacher personality is the Minnesota Multiphasic Personality Inventory. A number of studies have investigated MMPI profiles of students majoring in education and those going into other fields, and

failed to differentiate between these groups (Lough, 1945; Macheon, Gowan, and Gowan, 1955), even though studies utilizing other instruments have demonstrated fairly clear differences between teachers at different grade levels (Ryans, 1960). It may be, however, that experience in teaching at a certain level tends to change scores in a common direction.

One major study attempted to use the MMPI to predict rated success in secondary teaching, but produced few positive findings (Hedlund, 1953). This study is particularly indicative of some of the difficulties involved in the utilization of tests such as the MMPI in teacher research. Only one scale on the MMPI discriminated between those students who went on to be rated as effective teachers and those who were seen as ineffective; this was a low score on the Paranoia scale (Hedlund, 1953). However, a study by Gough and Pemberton found a high Paranoia score to be an indicator of potential teaching effectiveness (1952). This kind of contradictory result is not really uncommon in teacher effectiveness research, and indeed may make good sense given differences in populations studied, differing situations, etc. However, since the subscales on the MMPI were originally derived from a clinical population, and represented responses which were considered to some extent pathological, they are difficult to interpret when used with a population which may be essentially normal. Furthermore, since instruments like

the MMPI have been developed from an empirical frame of reference, and have no underlying theoretical rationale, even scores obtained with reasonable consistency may be somewhat difficult to interpret.

One asset attributed to the MMPI for use in studying teachers is that considerable work has been done in establishing normative data for teachers and education students through the UCLA testing program (Macheon, Gowan, and Gowan, 1955). However, these same data indicate that perhaps one of the highest correlations between being seen as an effective teacher and the MMPI is the K Score; this is a scale built into the instrument which essentially measures a tendency on the part of the test taker to check those alternatives which are more positive in a culturally defined sense. It is related to defensiveness, and implies a desire to present as favorable a picture of oneself as possible. Elevated K scores have been perhaps the most consistent finding in studies relating the MMPI to effective teaching, and Gowan argues that it is predictive, in the empirical sense, of teaching potential (Gowan, 1955). Cook and Medley gave the same teachers the MMPI and the Minnesota Teacher Attitude Inventory, an instrument which is intended to measure general educational attitudes, particularly in terms of child-centered vs. teacher or subject-centered beliefs. The K Score on the MMPI significantly discriminated between low and high scorers on the MTAI, high K scores being related to high scores on the

attitude inventory. One implication which might be drawn from this study is that high K scores reflect a generalized response set toward normalization, which would tend to invalidate findings from other scales on the MMPI. The phenomenon of elevated K scores has been replicated in a number of other studies using teachers as subjects (Tanner, 1954).

The problem of social desirability extends, of course, to numerous personality and attitude tests. This is a particularly important problem in educational research, especially if the findings reported above concerning K scores are taken seriously. These would seem to imply that teachers, taken as a group, may be particularly sensitive to the cultural desirability of their responses. Since much educational research is carried out by representatives of teacher training programs within universities, and the general educational ideology of such representatives is probably well known by teachers, a general social desirability response set could seriously bias the results obtained.

One attempt to finesse the desirability issue in personality questionnaires is represented by the Edwards Personal Preference Schedule, an empirically constructed instrument based on Henry Murray's manifest needs (Murray, 1938). Each item on this instrument presents a forced choice to the respondent, the two options being carefully selected in order to present approximately equal desirability (Edwards, 1959). This instrument was administered

to 366 teachers from all levels in order to attempt an analysis of their need structure (Jackson and Guba, 1957). As a whole, the sample scored significantly higher on the needs represented by Deference, Order, and Endurance, lower on Heterosexuality and Exhibition. Female teachers scored consistently low on Dominance. Perhaps one of the more interesting findings to emerge from this study was the fact that teachers did not score higher than the normative population on needs related to Nurturance, Intraception, and Affiliation, needs which one might speculate would play an important part in the selection of a career devoted almost exclusively to working with children (Jackson and Guba, 1957). One of the difficulties presented in attempting to interpret this study derives from the use of norms based on college students, a somewhat selected population who were naturally younger than many of the teachers included in the study (Getzels and Jackson, 1963). In 1959, norms of the EPPS utilizing a more representative adult population were published (Edwards, 1959).

Medley obtained ratings on student rapport exhibited by 91 student teachers, and then administered the EPPS. On the basis of measured needs, he was not able to discriminate between those students who demonstrated more or less rapport with their students. He then went through the data and removed from the analysis all subjects who scored high on the Consistency scale, which is supposed to

suggest insincere responses; need scores then made sense when compared to rapport estimates (Medley, 1961). However, being forced to discard nearly two-thirds of a sample would seem to render the findings somewhat suspect. The preponderance of high C scores is also interesting in terms of elevated K scores on the MMPI, as discussed above.

A more recent study investigated the need structure of a group of female elementary school teachers, who on the average scored significantly higher on Exhibition, Autonomy, Intraception, Dominance, Change, and Heterosexuality. It was also found that Deference, Order, and Endurance increase with maturity, and that Exhibition and Heterosexuality decrease with age, as one might expect (Eberline, 1970). The inconsistencies between this and previous studies may be just that, or might possibly reflect changing characteristics in American teachers; the changes in measured need strength which Eberline found connected with age might, in part, substantiate this, since the average age of teachers in this country has been decreasing for the past ten to fifteen years.

A number of personality inventories have been utilized in research on teachers, but few significantly predictive relationships have been discovered (Gowan and Gowan, 1955; Leeds, 1956). The idea that emotional instability, as measured by objective instruments, may be detrimental to teaching effectiveness, has been examined a number of times with somewhat equivocal results. Bowers

and Soar found that better adjusted teachers were more effective after training sessions than those who were less well adjusted at the beginning of training (1962). However, the problem of differential effectiveness in the groups before training, as well as the possible contribution of other variables, was not explored.

Numerous other personality assessment devices have been selected to study teachers, ranging from sentence completion techniques to clinical devices such as the Rorschach and TAT (Getzels and Jackson, 1963), but since they generally have not produced findings relevant to the present study they will not be reviewed here. One interesting device of a projective nature is described by Peck and his colleagues (1970); they had education students write four short stories (five minutes for each) describing a teaching-learning situation, and analyzed the content according to a number of categories such as optimism, involvement, teacher control, crises and their resolution, etc. Analyses of the data demonstrated some validity in terms of length of time spent in the training program, and other relevant experiences. Drawings of a teacher in a classroom situation have also been utilized; Page and Travers collected these from 175 elementary education students and scored them along a number of dimensions, including incipient psychopathology (1953). Their results were essentially negative, and again call into question the practice of using traditional clinical signs of psychopathology for application to essentially normal populations.

Similar conclusions can be drawn from a rather extensive study of Peace Corps trainees which gathered substantial predictive data during the training period, and then obtained composite competency ratings during actual teaching service in Ghana (Smith, 1968). Fairly extensive psychiatric interviews were poor predictors of competency in the field, as was an extensive battery of empirical personality tests. One of the few significant predictors in this study was what Smith termed a sense of efficacy, or being in control of one's own destiny, assessed by having trainees write responses to open ended questions concerning what they would do after their Peace Corps service, what they would be doing five years hence, etc. (Smith, 1968).

A minority of studies have started with some set of theoretical constructs, and then utilized the teaching-learning situation to test their ideas. Johnson (1969) has applied the Dogmatism construct to changes during student teaching, hypothesizing that Dogmatism scores of student teachers would be related to the scores of their supervisors over time. About two-thirds of his sample changed Dogmatism scores significantly in the direction of their supervisors, while the others changed in the opposite direction (Johnson, 1969). It would seem reasonable to expect that knowledge of the student's personality structure previous to student teaching might predict the direction of change in relation to his supervisor.

Another interesting theoretical approach involves the Conceptual Systems theory of Harvey, Hunt and Schroeder (1961). It was assumed that the higher a student teacher's conceptual level (CL), that the more ability he would demonstrate in reflective teaching, which is essentially the ability to change teaching style appropriately under different circumstances, or to " . . . radiate a wide variety of environments" (Hunt and Joyce, 1967, p 1). The interpretation of their results was somewhat constrained by the fact that they had few teachers whom they could categorize as being at their highest conceptual level (Level IV); however, they obtained a correlation of .578 between Conceptual Level and reflective teaching (Hunt and Joyce, 1967).

Studies Related to Attitudes and Perceptions of Teachers

The study of teacher attitudes, particularly toward educational goals and children, has seen nearly as much activity as has personality assessment. In many of these studies, the instruments utilized have been empirical in nature, consisting of refining different scale items assumed to be related to important educational attitudes, and then using scale scores as predictor variables in studies of teacher effectiveness or teacher personality traits. Much of the content of the various attitude questionnaires and surveys had been directed at the dimension of pupil-centered vs. teacher-centered values (Stern, 1963).

The instrument that has seen perhaps the greatest use in teacher research is the Minnesota Teacher Attitude Inventory (Cook, Leeds, and Callis, 1951). Getzels and Jackson found more than 50 published studies using the MTAI (1963). Since these studies have included methodological as well as substantive issues, the instrument is exemplary for problems as well as findings in teacher research. High scores on the MTAI have shown significant correlations with composite ratings of teacher-pupil rapport in some studies (Cook, Leeds, and Callis, 1959). Other studies have found significant correlations between scores on the instrument and student teacher ratings (Stein and Hardy, 1957); different teacher training institutions (Kearney and Rocchio, 1956); and sex and experience (Beamer and Ledbetter, 1957). However, contradictory findings in each of these areas can also be found in the literature (Getzels and Jackson, 1963).

A variety of methodological studies concerning the MTAI make these contradictory results even more difficult to interpret. For example, a factor analysis of the inventory suggested that a significant portion of the variance could be accounted for by a single generally positive attitude factor, tending to throw some doubt on the utilization of subscale scores (Ferguson, Brown, and Callis, 1954). Several studies have instructed subjects to fake their responses in the direction of authoritarian or permissive attitudes; although there is some controversy

in the literature regarding these efforts, it seems clear that subjects instructed to fake in these two directions will come up with scores which are different to a highly significant degree (Rabinowitz, 1954). Again, this would seem a particularly important issue in view of the general tendency of teachers to normalize their responses in a direction perceived to be socially positive.

Another study looked more carefully at response set tendencies and found, beyond social desirability, a tendency for different subjects to more consistently mark "agree" or "disagree" on items, regardless of the content (Mitzel, Rabinowitz, and Ostreicher, 1955). An interesting elaboration of concern with response set involved an investigation of teachers who tend generally to take a moderate position; under the scoring criteria of the MTAI, these people will consistently score lower than moderate, since more of their responses will arbitrarily be keyed as incorrect (Getzels and Jackson, 1963).

Finally, the complexity of relationships between high scores on an instrument such as the MTAI and teacher effectiveness measures was highlighted in a study which correlated teacher attitudes and student needs; correlations between high MTAI scores and pupil ratings of their teacher were relatively high when the class could be generally characterized as having high affective needs which were salient in that situation. In classrooms where there was a more cognitive orientation, correlations between the

student ratings and high MTAI scores were consistently low (Della Piana and Gage, 1957). This study could well have served as a prediction of things to come when researchers became interested in other variables; for example, essentially the same findings have been reported in terms of certain observed teacher characteristics (Bowers, 1958).

Other studies have used a variety of different instruments, and have found significant differences in educational attitudes for teachers of different subject matter and different grade levels, along with an interaction with sex (Bledsoe and Brown, 1968). The dimensionality of teacher attitudes, or beliefs about teaching, has been investigated in an effort to map multiple beliefs and their interrelationships, rather than focusing on a single dimension, such as child-centeredness. Wehling and Charters investigated eight different dimensions, ranging from subject matter orientation and classroom order to student challenge and autonomy; they found considerable instability in their factor structure, suggesting that interpretations of this kind of research should not be based on a single factor analysis. However, they also found some interesting interrelationships between different dimensions, suggesting that the authoritarian-permissive dimension may be fairly complex in its relationship to different teaching practices (Wehling and Charter, 1969).

Perhaps the most ambitious study involving teacher attitudes and their relationship to classroom behavior has been the Teacher Characteristics Study (Ryans, 1960).

Ryans began with three goals: the identification of patterns of classroom behavior and attitudes; the development of paper and pencil inventories which would estimate these patterns, or serve as their correlates; and the comparison of different groups of teachers. More than 6000 teachers were involved in the study, in 450 school systems. Analysis of the data yielded three major patterns of teacher behavior: warm and understanding vs. aloof, egocentric, restricted teacher behavior; responsible, businesslike, systematic vs. evading, unplanned, slip shod teacher behavior; and stimulating, imaginative, surgent vs. dull, routine teacher behavior (Ryans, 1960). A paper and pencil instrument called the Teacher Characteristics Schedule was then derived from these three dimensions and refined, in order to investigate their significance among different groups of teachers.

Results of the Teacher Characteristics Schedule for the entire sample showed clear distinctions between elementary and secondary teachers; among the first group, the three dimensions were correlated, and also tended to correlate with pupil behavior. This was not true at the secondary level (Ryans, 1960). When those teachers scoring at the two extremes on the schedule were separated out and observed, there did seem to be consistent differences in their rated behavior. There were a number of interactions with sex; e.g., men were more permissive at the elementary level, less so at the secondary level.

Although Ryans' study contributed a good deal of interesting information, it did not shed much light on the problem of the relationship between various measured educational attitudes and the actual classroom behaviors of teachers. This problem, of course, is indigenous to much research in the behavioral sciences, but has often been ignored in educational research. Stern (1963) reports several studies which were unable to confirm any relationship between educational attitudes and classroom behavior, and other results which indicate the validity of the relationship. He also points out that it has not been demonstrated that pupil changes are necessarily related to any of the attitude dimensions used until that time (Stern, 1963).

The same issue, in a positive sense, has been raised dramatically by Rosenthal and Jacobsen in a more recent publication (1968). The notion of the potent effects which teacher expectancies may have on a child's achievement and ability to productively function in school implicitly concerns both general educational attitudes and specific perceptions a teacher may have formed regarding certain children. Rosenthal concluded that his experimental inductions to change a teacher's expectations for certain children were indeed potent in changing the children's performance (Rosenthal and Jacobsen, 1968). Although their methodology and data have been criticized, and replications have not always produced the same effects (Claiborn, 1969), other studies have indicated that there is some relationship

between at least four variables: characteristics of certain children, the teacher's formed expectations, the teacher's behavior, and the child's perceptions and overt performance. For example, Silberman interviewed 10 third grade teachers in order to find out which children they viewed with concern and attachment, with indifference, and with rejection. Categorical observations then revealed significant differences in the ways in which teachers behaved toward these children, particularly in number of contacts, positive evaluation, and acquiescence; furthermore, interviews with the children indicated that these behavioral differences were perceived by them (Silberman, 1969). Brophy and Good had teachers rank all their children in terms of how well they expected them to do during the year, and then selected the top and bottom three children for targets utilizing a dyadic (teacher-child) observation system (1969). On an overall level, they found teachers demanding and reinforcing quality responses significantly more often in the high expectancy children. The behavioral effects on the children were also apparent, in that the high expectancy children initiated and created more response opportunities for themselves (Brophy and Good, 1969). Finally, Smith found significant correlations between the number of positive and encouraging teacher statements directed at a child and the anticipation that the teacher had formed regarding the pupil's eventual attainment of a high status occupation (1965).

One other aspect of teacher attitudes and formed perceptions of children is particularly relevant to this study, involving the teacher's awareness of or perceptions of behavioral deviancy and emotional problems. Since Wickman's early study, it has been assumed that teachers do not regard emotional problems in the same manner as do clinicians, and that particularly, they tend to regard the aggressive or acting out child as having problems, while ignoring the withdrawn or depressed child (1928). A recent review of the literature questions this assumption, concluding that teachers are just as sensitive to different kinds of emotional problems as are clinicians, although they are forced to attend to the acting out child to a greater degree because of the general press of maintaining an adequate learning climate for the classroom group (Glidewell and Swallow, 1969).

Certainly there seems no doubt that behavior management problems assume great saliency within the teacher's life space. A study reported in 1915 states that teachers who had failed reported most often that discipline had been their major problem (Buellesfield, 1915). In 1940 Davis reported that interviews with elementary and junior high school teachers focused on their major teaching problems revealed discipline and motivation as the most common concerns (Davis, 1940). A recent report of a teacher consultation project echoes the same theme; consultation strategies geared toward assisting the teacher

to make changes in the learning environment more suitable for their students were ineffective until the teachers had been able to work through their intense feelings about behavior management, and then successfully apply some management techniques (Good, Schmidt, Peck, and Williams, 1969). Recently, student teachers were given a number of classroom stories concerning specific children representing four behavioral dimensions: rigid and conforming, dependent and submissive, flexible and untidy, independent and assertive. They were asked to rate the children in the order that they would most like to have them in their classes. The results were startlingly clear; the ratings for top preference were: rigid girl, rigid boy, dependent girl, dependent boy, flexible boy, and last, flexible girl (Feshback, 1969).

Studies Related to Observing Classroom Teacher Behavior

In conceptualizing teacher effectiveness and classroom research, Mitzel has made a distinction between three classes of variables, which he terms presage, process, and product (Mitzel, 1960). The first category refers to those characteristics which the participants bring to the situation with them, such as the teacher's personality characteristics; the second refers to actual processes involving ongoing behavior in the classroom, and the third to some specified outcome, e.g., pupil gains in reading achievement. It is to the second, or process, class of variables that

the developers of classroom observation systems have devoted themselves, although their intention has often been related to linking various aspects of teacher behavior to pupil change criteria.

The recent proliferation of classroom observation systems is interesting in terms of their relative neglect in both early and recent studies, in spite of the fact that many researchers had pointed out their possible efficacy for some time previous to this development. In their literature review, Medley and Mitzel mention observational systems developed in 1914, 1928, and 1934, some of them highly elaborate (1963). However, their utilization in classroom studies was negligible until the late fifties or early sixties, with the exception of some of the early classroom climate studies, which will be reviewed later (Anderson, 1939; Withall, 1949).

Up until this time, process variables had been considered, if at all, in the light of teacher rating scales. Since the typical scale called for an observer to watch extended sequences of behavior, and then to make a judgement concerning the relative amount of some particular characteristic a teacher had displayed, the final determination was open to contamination from a number of sources. Of particular concern was the fact that the observer had to make an inference on a fairly abstract level; this inference was subject to the vagaries of his memory, of the operation of the halo effect, of various preconceptions

with which the observer may have entered the situation, etc. One of the goals of a classroom observation system, then, is to categorize behavior into units that can be reliably counted, and to insure that the judgements which the observer is asked to make are low in inference demands.

Perhaps the most popular observation system developed to date is the Interaction Analysis System of Flanders (1960; 1963). This system assesses behavioral categories assumed to be related to the social-emotional climate of the classroom, as evidenced by Withall's work (1949), and is also similar in content to Anderson's concept of dominative vs. integrative teacher behavior (1939). There are ten categories in the system; seven of these relate to the teacher, two to the students, and one stands for silence or confusion. Four of the teacher categories are exemplars of indirect influence, including such behaviors as accepting and clarifying a student's feelings or his ideas, praising, and asking questions. The other three categories reflect direct teacher influence, in terms of lecturing, giving directions, or criticising (Flanders, 1963). The two categories of student talk involve comments in response to the teacher, and student initiated remarks. Flanders uses an ID ratio, which is expressed as the number of indirect teacher behaviors divided by the number of direct teacher behaviors (Flanders, 1967). An interesting procedure for analyzing the data has been developed, which involves the construction of

a ten by ten matrix in order to give a clearer picture of the interaction between teacher and student behaviors, and some information concerning sequential or temporal relationships.

Although Flander's system has been used in descriptive research and also as a means of providing feedback to teachers in training, some of the most interesting results have come from studies which have related it to pupil change variables, particularly achievement gains. For example, Amidon and Flanders found that even dependent prone students in geometry classes increased their achievement when exposed to more indirect teaching (1961). Coats obtained surprisingly high correlations between teachers' I/D ratios and both pupil achievement and attitudes (1966). Indeed, it was findings such as these that led Flanders, in a recent review, to express some optimism regarding the present state of teacher effectiveness research. As he pointed out, this was the first review to have anything substantially positive to report, particularly in persistent findings of process-product relationships (Flanders, 1969). One difficulty with these conclusions lies in the kinds of scores typically obtained using the Interaction Analysis system; most teachers have very few verbal behaviors which are coded as indirect. Therefore, even in those studies where differences are found which relate to pupil changes, the high indirect group in actuality shows only a very small percentage of actual indirect statements,

which tends to confuse the issue (Dodl, 1966). Furthermore, there are some difficulties inherent in the categorization and classification of pupil statements, which are treated as group phenomena, and yet correlated with product data which are indexes of individuals (Yamamoto, 1967).

A good deal of information descriptive of verbal activities in classrooms has emerged from these studies which indicates that teachers do indeed spend a good deal of their time talking; Flanders' rule of two-thirds states that two-thirds of classroom time is occupied by talking, two-thirds of all talking is done by the teacher, and two-thirds of the teacher's statements are directive (Amidon and Giammatteo, 1967). Studies using Flanders' technique in elementary classrooms have indicated that the amount of teacher talk is somewhat less than in secondary schools, with teacher talk accounting for about 50% of verbal behavior in first grade classrooms (Furst and Amidon, 1967). Also, it was found in one study that superior elementary teachers talk relatively less than their less competent colleagues, and are also somewhat less directive (Amidon and Giammatteo, 1967).

These results are inconsistent, however, with a study focused on the behavior of a group of first grade teachers who had been through a training experience concerned with teaching a new science curriculum by the discovery method. If the training were effective at all, one would assume that it would tend to enhance indirect

teacher behavior; in these classes, teachers spent about 75% of the total class time talking (Hunter, 1969). Other data from this study indicated that the teachers spent about 40% of instructional time asking questions, and that about four-tenths of one percent of all questions were divergent.

A number of researchers have elaborated on Flanders' system, maintaining its essential components (Hough, 1967; Amidon and Hunter, 1967; Soar, 1971). Medley and Mitzel have developed a system called OScAR, which has gone through at least five revisions, and includes both social-emotional and cognitive kinds of categories; these will be discussed in detail in the following chapter (Medley, 1963; Medley and Hill, 1969; Simon and Boyer, 1967). Other systems have focused more exclusively on behaviors assumed to be related to cognitive factors; Taba constructed prescribed teacher behaviors for different situations based on a model of how children think, and then developed an observational system to check her assumptions, which produced some positive results (Taba, 1964). A complex system for studying the strategies of teaching has been developed at the University of Illinois; this system is unique in that it sets down specific criteria for defining the unit of behavioral analysis (Smith and Mieux, 1967). Other investigators have designed observational categories specifically to fit the dimensions they were interested in (Kounin, 1969; Rosenthal, Underwood, and Martin, 1969). The

importance of looking at the kinds of questions which teachers ask was established by Gallagher, who found that the level of thinking of intellectually superior junior and senior high students was directly related to the quality of thinking of their teachers. When the teachers asked divergent questions, the pupils more often responded with answers indicative of divergent thought (Gallagher, 1965).

It is interesting that, with all the concentrated activity involving the development and refinement of observational systems during the past ten years, they are still not commonly used in other studies. Classroom observations are expensive and time consuming, but often provide essential links in the interpretation of other data. For example, in studies of the effects of introducing new curricula in the physical sciences, information finding that teachers are utilizing the materials in a very traditional way certainly influences an interpretation of results. However, a recent review of hundreds of research and evaluation reports through the ERIC Clearinghouse on Early Childhood Education found only ten observational studies in this area reported since 1960 (Katz, 1969).

Classroom Climate

The construct of climate in regard to the phenomenal nature of an individual's group experience has been defined and utilized in a number of ways by educational investigators, and is an inherent assumption behind many current

observation systems, particularly Interaction Analysis (Flanders, 1967). It is closely related to such concepts as group tone or mood, and often refers quite specifically to the characteristics of the teacher's leadership behavior, and her tendency to exercise direct control over students vs. the extent to which students are encouraged to participate in their classroom destiny. This dimension has often been referred to as pupil-centered vs. teacher-centered (Withall, 1949).

An early example of this approach was a series of studies reported by Anderson (1939); these were observational studies in which the behaviors of nursery school teachers were coded as being dominative or integrative in intent. Dominative behaviors were defined as indicating a certain rigidity of purpose and personality, which tends to stifle individual differences and gain compliance by techniques which do not recognize the integrity of the individual; integrative behavior, on the other hand, is intended to enhance individual differences and to foster a spirit of cooperation and common purpose. Observations on a small number of teachers indicated wide individual differences, although all teachers had considerably more dominative than integrative behaviors, the ratio ranging from two to one to five to one. The teachers averaged over 400 contacts per hour with their classroom group (Anderson, 1939).

Closely related to this concept, although perhaps even more provocative for educational practice, were a series of group studies focused on differences in leadership styles and their effects on group participation (Lippitt and White, 1941). Utilizing after school activity clubs for boys, they studied the effects of authoritarian, democratic, and laissez-faire group leaders, and were able to demonstrate a number of interesting differences in the behavior of boys under different conditions, particularly in the display of aggression and in self directed task orientation.

This approach, particularly the distinction between democratic and autocratic group leadership, was expanded by Withall in a series of investigations revolving around the concept of social-emotional climate within the classroom. Withall defined climate as, "The emotional tone which is a concomitant of interpersonal interaction. It is a general emotional factor which appears to be present in interactions occurring between individuals in face-to-face groups (1949, p 49)." Using transcripts of verbal teacher behaviors, he developed seven categories which seemed exhaustive for the statements that teachers typically make in classrooms; these ranged from commending or clarifying the pupil's responses to directing, reproving, or self justifying kinds of remarks. Three of these categories were assumed to be learner-centered, and three teacher-centered, with one neutral category. Besides

establishing reliability, Withall produced some evidence of validity, the most striking involving the positive feelings of students being taught in a learner-centered style, and the somewhat negative reactions of students in a teacher-centered condition (Withall, 1949). Withall's categories obviously formed the basis for the teacher categories in Flanders' Interaction Analysis, which has also been able to demonstrate certain relationships between indirect teaching (learner-centered) and student achievement (Flanders, 1969).

In addition to the work of Flanders, a number of studies have utilized essentially those concepts that Withall discussed. Cogan used the terms preclusive and inclusive in a similar manner, and had students rate their teachers along these dimensions. He found that students who perceived their teachers as being Inclusive, i.e., student centered, also saw themselves as completing more assignments and doing more extra work on their own; their perceptions tended to be corroborated by their teacher (Cogan, 1963). Cogan here assumed that pupil gain is the most logical criterion for assessing teacher effectiveness, and that completion of required and voluntary class assignments could serve as a microcriterion of this gain. Another study which identified highly integrative and highly dominative third grade teachers looked at pupil achievement in arithmetic as a criterion and failed to find any significant differences, after matching the pupils on beginning

arithmetic achievement (Guggenheim, 1961). Again complicating the picture, Heil and Washburne attempted to be more differential in the analysis and divided teachers into three types and students into four; they found a tendency for some types of teachers to be more effective with certain types of students, along with a subject matter interaction (1962).

Almost all of these studies have tacitly assumed that influence within a classroom is unidirectional, with the teacher's leadership style in effect defining the classroom tone or climate. However, there are a few sources in the literature which discuss other factors which might enter into the generation of classroom climate, or see it as the result of a more complex array of sources. The term "psychological ecology of the classroom" was first used in 1951, to describe the interaction of psychological habitat, or life space, and the activity setting within the classroom (Wright, Barker, Nall, and Schogger, 1951, p 190). The notion of activity setting has been considerably expanded by Gump, and certainly must have a part in the constellation which would be experienced as classroom climate by any individual student (Gump, 1964). Finally, a recent study using Interaction Analysis has even looked at the influence of students' behavior on their teacher's tendency to be indirect in teaching in the college classroom, and has demonstrated that the more bored the students, the more direct the instructor (Klein, 1971).

A series of studies focused on classroom climate have utilized data from the Harvard Physics Project, illustrating the conclusion that curriculum changes alone do not necessarily guarantee changes in classroom processes and outcomes. One of these studies reports 32 significant correlations between classroom climate and a variety of learning and achievement variables (Walberg and Anderson, 1968). The students' perceptions of classroom climate predicted both cognitive and affective outcomes, such as attitudes toward science or toward physics. In a later study using the same data, the classroom learning climate was conceptualized as a mediator of learning, defined as that press which students had to respond to in one way or another. The perceived environmental press regarding cognitive demands was specifically related to learning outcomes; at the same time, a student's satisfaction with his class, including his perceptions of interpersonal relationships with peers, were significantly related to changes in interest and attitude toward science (Walberg, 1969). These data were collected by using a Learning Environment Inventory Scale which included 13 perceived dimensions and was able to significantly differentiate between different classes (Anderson, Walberg, and Welsh, 1969). Another instrument utilizing student perceptions has also been recently developed for the comparison of classrooms for gifted children with regular classrooms; this also makes the assumption that instructional climate

is an aspect of environmental press, and is defined by the characteristic demands of the classroom environment as perceived by the students (Steele, House, and Kerins, 1971). When compared with actual classroom observations, it was found that students (these were all above Grade Six) were able to more accurately estimate certain aspects of the learning environment than were their teachers. For example, teachers consistently underestimated the total percentage of classroom time which they spent in talking (about 75.90%), while the students were reasonably accurate in their estimates.

Finally, a provocative little book by Phillip Jackson discusses numerous phenomena which are indigenous to most school environments, such as lack of privacy, redundancy, waiting, and overt evaluation which all must be related to the ways in which a child perceives and experiences his school environment. Perhaps one of Jackson's most intriguing points involves the redundancy common to most school experiences; the fact that over the period of a year this redundancy must make the effects of these experiences even more potent to the experiencing child. The fact that classroom climate, or instructional press as perceived by the child, tends to be a highly stable phenomenon to be experienced throughout the year, forces the child to adapt to and cope with its demands. Perhaps it is this adaptation which is central to the importance of climate,

in the way in which it mediates between the goals of the school setting and the criteria which have proved so elusive, changes in what the child learns about the world and about himself.

C H A P T E R III

METHODOLOGY

Overview of Study

As stated in Chapter One, the present study is primarily concerned with three major issues: the complexity of the classroom system, interrelated aspects of this system which are assumed to generate classroom psychological climate, and the effects of a training program on these various aspects of classroom psychological climate. These concerns evolved from a three year project related to the training of effective teachers for young, emotionally disturbed children. This project was carried out within the School of Education at the University of Michigan, with the support of a grant from the National Institute of Mental Health (Morse and Schwertfeger, 1965). One of the goals of this project was to study the training process and its effectiveness, with particular attention to the individual characteristics of the trainees, the characterisitcs of the training program, and the results which this match produced in terms of the trained teachers' ability to work effectively with seriously disturbed preschool children. It soon became clear that individual trainees responded to program experiences and sequencing

in different ways, and that their ability to teach effectively varied considerably in relation to the nature of the educational field settings in which they were placed (Morse, Schwertfeger, & McNeil, 1968). The criterion problem, i.e., how to measure and describe these variations in classroom performance, seemed to necessitate a more rigorous concern with conceptualizing a classroom system, including those psychological and behavioral dimensions which should be given the highest priority in the design of research to assess the effectiveness and meaning of training programs.

In attempting to conceptualize the classroom systems in which the trainees were functioning, populated as they were by children who often presented serious teaching and management problems, the concept of classroom psychological climate seemed particularly salient. In some settings, individual trainees seemed able to generate learning and social environments to which many of the children responded with comfort and even enthusiasm; other trainees, in the same situation, generated environments to which many of the children responded with testing, avoidance, aggression, or other nonproductive adaptations. This ability seemed crucial in terms of designing a really effective training program, and also to matching trainees or teachers to particular kinds of children and settings in which they could be predicted to function at an optimal level.

However, the attempt to relate this ability to trainee characteristics proved a difficult and elusive task. Consideration of certain personality characteristics within the group of trainees did not relate significantly to this ability, nor did extensive ratings by supervising teachers (Morse, Schwertfeger, & McNeil, 1968). Therefore, it was decided to attempt a more extensive analysis of teacher characteristics considered instrumental to the generation of classroom climate. This would be done within the framework of a training program short enough in duration to allow for more consistent monitoring of the classroom process. A paradigm was developed in the hope of imposing some order upon the flux of classroom events and teacher characteristics without denying the ultimate complexity of these functioning systems. This paradigm is illustrated in Figure 2, in the first chapter.

This paradigm recognizes that the teacher, although often prepotent in her effects on classroom climate because of her role definition, is complementary within the classroom system to the effects of children in the class, the physical and activity context in which they are interacting, and the tone and expectations of the school and community. However, for the purposes of this study, it was decided to focus primarily on certain teacher characteristics, conceptualizing this as one step in what must inevitably be a programmatic research effort directed toward understanding the parameters and interactions of all system elements

which ultimately contribute to the psychological climate experienced by any particular child. Therefore, the following assumptions are made within the context of the present study: 1) That the classroom system represents a highly complex social-psychological situation. 2) That classroom psychological climate is a phenomenon which has already been demonstrated. 3) That in order to understand the teacher's contribution to psychological climate in any particular setting, it is necessary to gain information relating to both her psychological and behavioral characteristics; this sub part of the system is also highly complex. 4) That the teacher's ability to generate an appropriate psychological climate in as many different classroom settings as possible represents one of the most important criteria in the evaluation of teacher training programs. It is a concept which subsumes both teaching and affective variables, and should be crucial in predicting the benefits to be derived by any particular child placed within a specially designed educational environment.

The present study, then, will focus on those aspects of the paradigm presented in Chapter One which include the teacher's contribution to the classroom system. The psychological dimensions of interest are the teacher's personality needs, self feelings, attitude structure as it relates to educational and mental health concerns, and perceptions of particular children. Both attitude structure and teacher perceptions of children are conceptualized from two different viewpoints: informational aspects of an

attitude or perception, and affective, or connotative, aspects. Behavioral dimensions represent the teacher's behavior in the classroom situation, and the behavior of certain children within her classroom. The children's behavior was included in order to gain some rough estimate of situational determinants relevant to the teacher's behavior and perceptions. For the purposes of analysis, the teacher's personality needs, self feelings, and attitude structure will be considered predictor variables; the teacher's perceptions of particular children and her behavior will be considered criterion variables.

Thus, the boundaries of the study are defined by the psychological and behavioral characteristics of the teacher within the classroom system, with reference to the behavior of certain children within the classroom as explanatory evidence. Some information concerning the teacher's classroom goals and strategies will also be included. Dimensions of child personality, attitudes, and perceptions are not included in the present study, nor are context effects within the classroom, or school and community expectations.

Circumstances of the Study

During the Spring Semester of 1968, a special training project was carried out within the School of Education, University of Michigan, which focused on finding ways in which to assist primary teachers in

regular classrooms to more effectively meet the needs of children for whom satisfactory development in the early grades was being inhibited by emotional and behavioral problems. The project was financed through a grant from the U.S. Office of Education, Department of Health, Education, and Welfare (Schwertfeger, 1967; 1968). Ten primary classrooms in three southeastern Michigan school districts were selected to participate; each of these ten teachers was then paired with an early childhood student from the University who had completed her student teaching and would be graduating at the end of the Spring or Summer semester, with plans to teach in primary grades during the coming school year.

At the beginning of the six week program, each classroom teacher was asked to nominate those two or three children for whom she had experienced the most difficulty in creating an effective learning environment until that time. Once identified, these children became the Target Children for the duration of the program. The task of the classroom teacher and her new team member from the University became one of attempting to develop more effective strategies for teaching and managing the behavior of their Target Children, while at the same time carrying on an appropriate educational experience for the remainder of the children in each class.

In order to assist them in this task, the six weeks program was scheduled in the following manner: each

Monday, the ten teams would spend a half day at the University, a substitute being provided for each of their classrooms. During this day they would attend lectures, participate in group discussions, and have access to University faculty as resource persons in helping them define their goals and plan their strategies for the coming week. Then for the remainder of the week each team worked in their classroom in attempting to implement and evaluate the effectiveness of those strategies planned on Monday.

It could be argued that the effects of a special project, and the introduction into a classroom of a new team member would tend to create rather atypical conditions. However, since the regular classroom teacher remained dominant in terms of setting the general tone of the classroom, and since each classroom group had been functioning together for a period of seven months when the project started, it can also be argued that the addition of a new person, and the program's emphasis on certain children, would tend to highlight or exacerbate those processes and patterns of reacting that had already developed during the school year. Indeed, in this sense, the program was seen as an entre into the classroom system, which sometimes would make more salient those processes which were already in existence. There is some general evidence that this was the case, particularly in those concerns evidenced by the regular teachers in regard to their Target Children. For example, those primary teachers who tended to be primarily concerned with the

acquisition and demonstration of academic knowledge clearly made this their focus in setting goals and developing strategies for their Target Children, even to the selection of these children. These findings will be discussed more comprehensively in the final chapter.

It should be emphasized that the goals of the training project were not identical to those of the research design in the present study; the project (NDEA Institute for Advanced Study) was seen as a framework well suited to this kind of research. Therefore, the data and conclusions presented here should not be construed as an evaluation of the training project.

Research Design

The design of the present study is correlational in approach, since the major goals focus on examining the relationships between certain psychological characteristics of teachers and their behavior within the classroom setting. In their discussion of educational research designs, Campbell and Stanley point out, " . . . the relatively inexpensive correlational approach can provide a preliminary survey of hypotheses, and those which survive this can then be checked through the more expensive experimental manipulations (1963, p 234)." This is basically the approach of the present study, in which a paradigm is being investigated in terms of its relevance to understanding the classroom system and the teacher's contribution to classroom psychological climate. There should be

no dichotomy between experimental and correlational approaches to classroom research; instead, the issue could be seen as one of proper sequencing in application of the two approaches. The present effort is an attempt to evaluate the usefulness of a paradigm in bringing order to the impressive complexity of classroom systems, and identify relationships which can later be studied more precisely by experimental methods.

Therefore, instruments were selected on the basis of their relevance to dimensions listed in the paradigm. Table 2 shows the basic design of the study, in terms of dimensions, instruments, subjects, and data collection. Column A, Analysis Dimensions, is divided into categories on the basis of how the data are analyzed; those dimensions in the first row will serve as predictors, in the second row as criteria. The bottom row shows data dimensions obtained as additional information. Column B shows paradigm dimensions, which are subdivided into psychological and behavioral categories. Column C presents the instruments utilized for each dimension, the subjects involved, and the time of data collection. This table may be seen on page 83.

Data representing teacher personality needs, self feelings, and attitude structure were collected just prior to the beginning of the program, before the participants had an opportunity to become acquainted. Instruments representing self needs and attitude structure dimensions were

TABLE 2.--Research Design for Present Study

A. Analysis Dimensions	B. Paradigm Dimensions		C. Data Collection		
	Psychological Dimensions	Behavioral Dimensions	Instruments	Subjects	Time of Data Collection
I. Predictors	1. Personality Needs		1.1 Edwards Personal Preference Schedule	All Teachers	1st Week
	2. Self Feelings		2.1 Semantic Differential		1st Week 6th Week
	3. Attitude Structure a. Informational Aspects		3a.1 Teacher Practices Questionnaire	All Teachers	1st Week 6th Week
			3a.2 Teacher Opinionnaire	All Teachers	1st Week 6th Week
	b. Connotative Aspects		3b.1 Semantic Differential	All Teachers	1st Week 6th Week
II. Criteria	4. Perceptions of Children a. Information Aspects		4a.1 Behavior Rating	All Teachers	2nd Week 6th Week
	b. Connotative Aspects		4b.1 Semantic Differential	All Teachers	2nd Week 6th Week
		5. Teacher Behavior	5.1 OScAR 4V	All Teachers	1st, 3rd, 6th Week
		6. Child Behavior	6.1 CASES	Target Children	1st, 3rd, 6th Week
Additional Information	7. Teacher Goals		7.1 Interviews	All Teachers	6th Week

given again at the end of the program, in order to monitor possible changes in the classroom system associated with the training process. Teacher perceptions of Target Children were collected at the beginning of the second week, so that the Inexperienced Teachers would have had an opportunity to become acquainted with the children; these instruments were also given again at the end of the training program. Data on teacher behavior were gathered through structured classroom observations taken in all classrooms during the first, third, and sixth weeks of the project; observations of the behavior of Target Children were collected during the same periods. Interviews with all participating teachers took place during the final week of the project; these were related to the teacher's goals for Target Children and, more generally, for their entire class.

Data analysis was designed to fit the constraints of a large number of variables and relatively small sample size (20 teachers, 10 classrooms, 25 Target Children). This problem had been anticipated prior to data collection, but the decision to maintain the focus on ten classrooms derived from a desire to collect relatively comprehensive data in order to estimate the parameters of the classroom system and its relationship to group psychological climate. Studies in the literature bearing on this general issue have sometimes used larger samples, but the amount of data they were able to collect was restricted; therefore, their

findings, although sometimes statistically significant in showing relationships between climate variables and classroom learning, were not able to shed much light on the components which may make up or generate classroom climate, nor on their relationships (Steele, House, & Kerins, 1971; Walberg & Anderson, 1968). Therefore, it was decided to reduce confidence of generalization to other situations in order to attempt intensive examination of the system relationships within this particular group of classrooms.

Data analyses were run on the CDC 6600 System at the Computation Center, University of Texas at Austin. Data analysis programs referred to below are from the EDSTAT library of the Research and Development Center for Teacher Education, University of Texas at Austin.

There were essentially two goals relating to data analysis: to establish the utility of the data collected, and to provide information relevant to the hypotheses specified at the end of Chapter One. Data utility was examined by providing descriptive statistics relating to central tendency and variance; in particular, it seemed important to have some information relating to the variability of scores along each dimension variable. This was accomplished through the use of Program DISTAT (Veldman, 1970). Also, since the ten Experienced and the ten Inexperienced teachers were to be considered as one group for much of the analysis, it became important to determine whether there were significant differences between these two

groups on the major dimensions included in this study. This was accomplished by utilizing Program ANOVAR as a single classification analysis of variance (Veldman, 1970); with two groups of subjects and one trial, this is equivalent to a t test of differences between independent groups (Veldman, 1967).

In order to provide information relevant to the hypotheses, several analysis strategies were necessary. For the first hypothesis, concerning variable by variable relationships, Pearson product-moment correlations were computed between all variables, utilizing Program BLOCOR (Veldman, 1970). For the second, third, and fourth hypotheses, concerning relationships between multiple predictor variables and a criterion, multiple regression analysis was used (Kelly, Biggs, and McNeil, 1969). These were obtained through the use of Program REGRAN (Veldman, 1970). This program uses an interaction process to obtain a maximal squared multiple correlation utilizing those variables designated as predictors (Veldman, 1967).

The fifth hypothesis assumes that the total group of teachers may actually consist of some number of subgroups, and that these subgroups vary along both psychological and behavioral dimensions in such a way as to camouflage dimension relationships within the entire group. In order to investigate this hypothesis, Program HGROUP was utilized (Veldman, 1970). This program begins by defining twenty

separate groups, one for each subject, and then reducing the groups and combining subjects in a series of steps until each subject is present within one of two groups. The criterion used at each step along the way is the within group variance, or error sum of squares, which increases with each step, and should theoretically be largest when all subjects have been accounted for by two groups (Veldman, 1967).

The sixth hypothesis relates to change along certain system dimensions during the course of the training program. Again, Program ANOVAR was used (Veldman, 1970); with one group and two trials, it is analogous to a t test between two correlated groups of scores (Veldman, 1967). For this purpose, all twenty teachers were considered as the one group, and the pre and post tests defined as trials one and two.

Sample

Ten classrooms were studied; of these one was preschool, six were kindergartens, and three were first grades. Five of the schools were in primarily middle class areas, and five served lower class students; these categories were not empirically derived, but instead represent the perceptions of the teachers and principals involved. Most of the teachers had no aides or assistant teachers, nor worked in a team situation, prior to the advent of the program. The average number of children per class was 25, ranging from 23 to 29.

The ten regular teachers involved in the study were all women; their ages ranged from 21 to 47, the mean age for the group being 30 years old. They were all certified to teach at the elementary or preschool level in the State of Michigan. Their experience as teachers ranged from one to eight years in the classroom; the mean number of years in the classroom was four and one-half. Two teachers had Master of Education degrees, the rest all had bachelor's degrees, primarily in elementary education.

The ten inexperienced teachers from the University who were paired with the first group were made up of nine women and one man. Their ages ranged from 19 to 44 years with the mean being 23. Most of them had no teaching experience with the exception of student teaching. Three of them had bachelor's degrees; the others expected to graduate within one semester. Their academic backgrounds were more varied, only half of them being in elementary education, and the others coming from special education, psychology, and business administration.

The 25 Target Children selected by their regular teachers ranged in age from five to seven, with a mean age well over six. There were 17 boys and 8 girls selected, although in the ten classrooms in the sample there was an almost equal number of boys and girls. In terms of behavior, they were an extremely diverse group, the only commonality being consistent difficulties in learning at the expected rate. They ranged from one boy

who was highly aggressive and could hardly be contained within the school setting to another boy who had not spoken all year and spent most of his school time hiding in a paint locker. None of these children had been seen by mental health personnel, although most of the teachers had spoken with their parents and had expressed their concerns to principals and other teachers.

Instruments Used in Data Collection

Instruments will be discussed in order of their appearance in Table 2; they will be defined in reference to the paradigm dimension which they are intended to measure, and also to their status as predictor or criterion variables.

Predictor Dimensions

1. Personality needs - in order to gain information concerning the teachers' need structure, the Edwards Personal Preference Schedule was administered at the beginning of the project. This instrument consists of 225 sets of paired items; the subject is directed to check that item most characteristic of himself. The primary rationale for selecting this test was twofold: first, it purports to measure relatively normal personality characteristics, derived from a theoretical rationale; second, it tries to finesse the problem of response bias by pairing items which have been empirically demonstrated to have comparable social desirability values (Edwards, 1959).

It yields scores along 15 personality dimensions which are intended to be comparable to Murray's list of manifest needs (Murray, 1938); one other dimension is designed to reveal the consistency with which the subject is checking the items. Norms are available for both college and adult populations, men and women (Edwards, 1959). The reliability of the instrument has been demonstrated to be acceptable; internal consistency correlations range from .60 to .84, and test-retest coefficients from .74 to .88 (Edwards, 1959). There is some evidence concerning validity (Buros, 1969), although the problem of construct validity has not been attacked in any systematic way. Administration can be handled in a group setting, and scoring is relatively straightforward, although somewhat time consuming.

2. Self Feelings - for information relating more specifically to self esteem of the subjects, a variant of the Semantic Differential Technique was used (Osgood, Suci, and Tannenbaum, 1957). This technique was originally developed to measure connotative aspects of semantic space, and has been shown to have satisfactory reliability in a number of methodological and theoretically oriented studies (Osgood, Suci and Tannenbaum, 1957). Beyond this, the technique has been utilized in numerous clinical and social psychological studies, and has demonstrated its usefulness in numerous contexts (Snider and Osgood, 1969; Moss, 1970). Essentially, the technique

involves having subjects respond to a concept by rating a number of bipolar adjectives, each pair being separated by a seven point scale. Factor analyses of multiple ratings have shown that much of the variance can be accounted for by a relatively small number of dimensions; the two dimensions used in this study are Evaluative and Potency. A high score on each of these dimensions when a subject was rating the concept 'school' would indicate that he responds to this concept by feeling that it is both good and potent. For the present study, 20 pairs of bipolar adjectives were utilized, each of them correlating highly with either the Evaluative or Potency dimension, and selected from The Measurement of Meaning (Osgood, Suci, and Tannenbaum, 1957). Subjects were asked to rate the concepts "I Am . . . " and "I Would Like To Be . . .," each concept yielding a score on both the Evaluative and Potency dimensions. Norms for several of the concepts rated in the present study are available for both special and regular education teacher trainees (Morse, 1967). A copy of the instrument as given, along with instructions for the subjects, may be seen in Appendix A.

3. Attitude structure - for assessing the teachers' attitudes, the major focus was on general attitudes toward teaching and the goals of education. It was deemed important here to assess both those general attitudes toward teaching which a subject would endorse, and also that person's connotative feelings concerning the concept

represented in any particular attitude. Furthermore, in a multidimensional study such as this, it seemed important to gain somewhat more differential and specific information than a global preference for teacher-centered vs. child-centered teaching approaches. Therefore, three instruments were selected for this phase of the study.

The first was the Teacher Practices Questionnaire, Form 4C (Sorenson and Gross, 1966). The rationale for this instrument grew out of a series of studies concerning the ways in which different people conceptualize the teacher's role (Sorenson, Husek, and Yu, 1963). There are 120 items in this form of the test, which are responses to the appropriateness of different solutions to a number of common classroom teaching and management problems. The items were designed to measure both the goals of education and the most appropriate means to reach them. The goals involve the acquisition of subject matter, the personal growth of the student, and the student's acquisition of appropriate social norms, or rules. The means include the didactic approach, focusing essentially on teacher control, and the discovery approach, implying student control. Combining the three goals and two means generates six dimensions on which scores are obtained: Content Didactic and Discovery; Student Didactic and Discovery; Social Norm Didactic and Discovery. Split half reliability estimates for the six dimensions range around .80 (Sorenson, 1966). There is some evidence available indicating support for content validity (Sorenson, 1966). (See Appendix A)

The second instrument utilized to assess educational attitudes was the Teacher Opinionnaire (Morse, Bloom, and Dunn, 1961). A card sort technique was used in administration; 40 statements typed on individual cards were presented and the subjects were asked to sort them into four piles of ten each in order of their importance for effective classroom functioning. Scoring yields four dimensions considered representative of four major theoretical emphases regarding effective teaching: Learning, Mental Health, Group Dynamics, and Development. Aspects of each of these approaches are not necessarily seen as mutually exclusive, but relative scores should give some indication of a teacher's value orientation regarding educational practices. This instrument may be seen in Appendix A.

The third instrument was selected in order to assess more connotative aspects of a teacher's educational attitudes. The Semantic Differential Technique was used, the list of bipolar adjectives being the same as that described above. Subjects were asked to rate the following concepts: Children Are, School Is, Teachers Are, Problem Children Are, and Mental Health Is. Again, an Evaluative and Potency score was obtained for each of these concepts.

Criterion Dimensions

4. Perceptions of Target Children - in order to measure the teachers' perceptions of their Target Children, two instruments were used: the Behavior Problem Checklist and the

Semantic Differential. The first contains items derived through factor analyses of extensive lists of clinically observed behaviors, and generally yields four scale scores (Quay and Peterson, 1967). Items relating to the subcultural delinquency factor were removed before administration so that scores were derived for three dimensions: Conduct Problem, Personality Problem, and Inadequate-Immaturity. The instrument was originally developed to obtain more accurate assessments of the characteristics of behaviorally disordered children, and therefore its use in tapping the perceptions of teachers might at firsthand seem somewhat incongruent. However, many of the items refer to characteristics such as "laziness," "anxiety," and "shyness"; estimates of the occurrence of behaviors such as these in specified children should depend to some extent on the teacher's perception of the child and, therefore, her willingness to assign such a meaning to the behaviors which she has observed. There is some evidence to support this kind of interpretation in a study of kindergarten and first grade children rated one year apart by different teachers, in which correlations ranging from .21 to .52 were reported for the various factors (Quay and Levinson, 1967). A copy of the instrument as used is available in Appendix B.

To assess the teachers' affective response to the Target Children, the Semantic Differential was again used, with the same set of bipolar adjectives as described above.

The child's name was simply written at the top of each check sheet. Scores on both the Evaluative and Potency dimensions were then calculated.

5. Teacher behavior - observational data were collected through audio recording. In order to code these tapes, the OScAR 4V (Observation Schedule and Record, Number 4, Verbal) was used (Medley, Impellitteri, and Smith, 1967). This is a low inference observation system designed to focus primarily on the teacher, this being its primary value for the present study. In its published form it contains 50 cells in which an entry may be made. There are three major categories: teacher statements, which may be classified as affective, procedural, or substantive; interchanges, in which both the nature of the teacher's question (convergent or divergent) and her response to the child's answer (supportive, approving, neutral rejection, critical rejection, ignore) are coded. These interchanges are also divided into substantive (subject matter oriented) and nonsubstantive interactions, the latter also being coded according to whether the teacher or child initiates the interchange. To these was added a third major category for the purposes of this study, labelled Management-Intervention; this category was used whenever the teacher went beyond procedural instructions and actively intervened in some ongoing behavioral sequence. Under this category were coded the teacher's method of intervention (suggest, distract,

direct, threat), the child's response (comply or not comply), and the teacher's response (positive feedback, negative feedback, accept, or ignore). Each teacher statement is coded according to these categories. The system is assumed to be mutually exclusive and exhaustive. It has demonstrated satisfactorily high levels of interrater agreement, and is fairly straightforward to code (Medley, Impellitteri, and Smith, 1967; Medley, 1967). An example of the coding sheet used, and category definitions, are available in Appendix C.

Additional Information

6. Behavior of Target Children - in order to obtain observational data, an instrument called CASES (Coping Analysis Schedule for Educational Settings) was utilized (Spaulding, 1970). The system is designed to code a child's ongoing behavior during ten-second intervals into one of thirteen categories, which are assumed to be exclusive and exhaustive. Each of these categories is intended to represent some sort of coping activity. The categories range from Aggression to Self Directed Activity to Withdrawal. Agreement between two different observers focused on the same child ranges from 81 to 95 percent, depending on the locus of activity; correlations run between .82 to .97 (Spaulding, 1970). A copy of the category definitions is available in Appendix D.

7. Teacher Goals and Strategies - interviews were conducted with teachers at the end of the training program. The

focus of these interviews centered on the teacher's goals, and the manner in which she felt these goals could be most effectively obtained. Unfortunately, due to people leaving for the summer vacation, it was only possible to conduct interviews with twelve of the twenty teachers involved in the project.

Since the relationship between each of the teaching teams in this study could be assumed to effect the processes under study in an important way, an effort was made to assess each team's perceived level of agreement concerning classroom goals and planning, and satisfaction in working together. A nine item compatibility index was designed specifically for this study.

Data Collection Procedures

All instruments related to the teacher's personality needs, self feelings, and attitude structure were given in a group setting, all twenty teachers attending one session at the beginning of the program, and another group session at the end of the six weeks. Before the administration a justification for the research was made to the group in terms of attempting to develop more effective inservice programs, and it was explained that participation in this part of the study was voluntary; all twenty subjects agreed at this time to cooperate. Also, anonymity was stressed, and an elaborate coding system was explained which would insure that no names would appear anywhere in the records.

At the end of the six week program the same battery of tests was administered, with the exception of the Edwards Personal Preference Schedule.

After the first week of the program, and again at the end of the sixth week, all teachers were requested to complete the Behavior Rating Checklist and Semantic Differential for each of the Target Children in their classrooms. Steps were taken to insure that these forms were filled out independently by each team member.

The acquisition of observational data presented a problem, since only one observer was available, and yet data from both teachers and children were desired. Therefore, it was decided to record teacher verbal behavior on audio tape, freeing the observer to collect other data while in the classroom. This had the additional advantage of increasing accuracy of coding, since the tapes could be played back as often as necessary. Since the teacher was the focus of this study, it was decided to use a cordless microphone; this was actually a small FM radio transmitter, about the size of a package of cigarettes, which the teacher put in her pocket or pinned to her skirt (See Appendix E). This in turn was attached by wire to a small clip with microphone which could be clipped to the collar of a blouse or sweater. The sensitivity of the microphone was adjusted so that it clearly picked up the teacher's voice, along with those students' voices which the teacher herself should have been physically

capable of hearing. The transmitter broadcast to a portable FM radio in a corner of the room or in the hall, which was in turn connected to a stereo tape recorder. Thus, while one channel of the recorder picked up the teacher's verbal behavior, the observer could use the other channel to record descriptions of the activity and participants. With only a few exceptions, caused by faulty operation of the system, the quality of the tapes was excellent.

Approximately six hours of verbal behavior were recorded in each classroom during the six weeks of the project. Each classroom was visited on three different occasions. As soon as the observer entered the room, the teacher was given the cordless microphone; the tape recorder would be turned on some time later, after the teacher had hopefully become adjusted to her small burden. Once the system was operating, the observer then did a series of five minute observations of each of the Target Children. Although an elaborate schedule had been worked out to insure equal sampling of Target Child behavior, this strategy was frustrated due to the absence of one or more of the Target Children on several of the scheduled observation days.

C H A P T E R IV

RESULTS

Introduction

Complete descriptive data, including means and standard deviations, for all instruments utilized in this study may be found in Appendix F . Included in this Appendix are tests of significance for all measures between the Experienced and Inexperienced groups of teachers.

In general, this present sample did not differ radically from other teachers on those instruments for which norms are available. The two exceptions were along the dimensions of personality needs, and educational attitudes as measured by the Teacher Practices Questionnaire. The teachers in this present study were somewhat higher than test manual norms on the needs for Heterosexuality, Change, Dominance, Intraception, and Exhibition; lower on Endurance, Abasement, Order, and Deference (Edwards, 1959). However, this is a pattern similar to those found in more recent studies of teachers and teacher candidates (Eberline, 1970). Somewhat more of an exception is represented by the results on the Teacher Practices Questionnaire; mean scores for the total group of teachers indicated a consistent preference for the discovery mode in relation to both academic and

social learning. Scores on these variables were consistently higher for the present sample than for preservice or inservice teachers at UCLA (Sorenson, 1966).

An analysis of the responses of the Experienced and Inexperienced teachers on measures of personality needs, attitude structure, and perceptions of children demonstrated rather remarkable similarities. Considering 45 variables from these dimensions, only two showed differences significant at the .05 probability level between these two groups: the Experienced teachers demonstrated a higher need for Order on the Edwards Personal Preference Schedule, and gave a less positive evaluative response to the concept, "Problem Children" on the Semantic Differential. These analyses are available in Appendix F. On the basis of these results, it was felt appropriate to combine scores from both groups for the purposes of further analyses.

Results Related to Hypotheses[1]

Hypothesis 1: The number of significant variable by variable correlations between predictor dimensions (personality and educational attitude) and criterion dimensions (teacher perceptions and teacher behavior) will not exceed chance expectations.

Pearson product-moment correlations were computed between all variables utilized in the study. Table 3

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[1]Throughout this chapter, statistical significance involves a confidence level of $p=.05$.

shows the number of correlations between predictor and criterion variables significant at the .05 level of probability. The top row shows the number of statistically significant correlations actually obtained between the variables within the two dimensions, e.g., Personality and Teacher Behavior, while the bottom row indicates the number of statistically significant correlations expected by chance. Since the cut off level being used is the .05 probability level, one would expect five correlations out of every hundred to be significant at that level merely by chance (Hayes, 1963).[2]

TABLE 3.--Obtained and Expected Correlations Significant at .05 Level between Predictor and Criterion Variables

	Personality X Teacher Behavior	Personality X Teacher Perceptions	Attitudes X Teacher Behavior	Attitudes X Teacher Perceptions
Number Correlations Obtained at .05 Level of Significance	12	5	13	11
Number Correlations Expected at .05 Level of Significance by Chance	8	5	8	5

[2]Tables containing correlations between all variables used in this study may be found in Appendixes H and I.

With two criterion dimensions and two predictor dimensions, there are four possible combinations between predictors and criteria; these combinations are represented by the columns in Table 3. Three of these combinations show a greater number of significant correlations than would be expected by chance, while the fourth, Personality by Teacher Perceptions, is exactly at the chance level. Therefore, hypothesis 1 cannot be confirmed, although the evidence for nonconfirmation is tenuous at best. For example, in the first column there are 160 possible combinations between variables in the dimensions of Personality and Teacher Behavior categories; 148 of these are low order correlations which do not achieve statistical significance. Therefore, it could be said that variable by variable correlations between predictor and criterion dimensions barely exceed chance expectations for significance. Actual correlations may be seen in Appendix H.

Table 4 shows obtained and expected significant correlations between psychological dimensions and categories of behavior for the Target Children; two out of three of these combinations are positive, having more obtained than expected correlations significant at the .05 probability level. Table 5 shows the same information for two other combinations of dimensions: Personality by Attitude, and Teacher Behavior by Child Behavior. One of these combinations is positive; there were no significant correlations between the observed behavior of the teachers and of

the Target Children within their classrooms. Therefore, for all combinations of dimensions listed in the paradigm of the classroom system, the number of significant variable by variable relationships is not much beyond what one would expect on the basis of chance alone. Furthermore, it is important to keep in mind that a correlation between two variables in this study, significant at the .05 level, would account for only about 25% of the variance between those particular variables.

TABLE 4.--Obtained and Expected Correlations Significant at .05 Level between Psychological Dimension Variables and Child Behavior Variables

	Personality X Child Behavior	Attitude X Child Behavior	Perceptions X Child Behavior
Number Correlations Obtained at .05 Level of Significance	1	8	8
Number Correlations Expected at .05 Level of Significance by Chance	2	3	3

TABLE 5.--Obtained and Expected Correlations Significant at .05 Level between Psychological and Behavioral Dimension Variables

	Personality X Attitude	Teacher Behavior X Child Behavior
Number Correlations Obtained at .05 Level of Significance	33	0
Number Correlations Expected at .05 Level of Significance by Chance	20	3

Hypothesis 2: Utilization of all variables together within a predictor instrument will result in stronger relationships with criterion variables than the variable by variable correlations considered in Hypothesis 1:

a. Personality needs will be significantly related to affective teacher behavior, but not to strategy teacher behavior.

Table 6 shows the results of a series of regression analyses designed to utilize measured personality needs from the Edwards Personal Preference Schedule in order to predict nine different categories of teacher behavior. The first consists of the initial eight variables from the Edwards, showing their relationship to all nine teacher behavior categories. The second predictor consists of variables nine through sixteen from the Edwards, predicting the same nine teacher behavior categories. Personality needs are not

TABLE 6.--Regression Analyses Using Variables from Edwards Personal Preference Schedule to Predict Teacher Behavior Categories

Predictor	Criterion	r	r^2	DF	F ratio	p
Edwards Personal Preference Schedule: Variables 1-8: Consistency, Achievement, Deference, Order Exhibition, Autonomy, Affiliation, Succorance	Teacher Directing	.69	.47	8/12	1.35	.31
	Teacher Enhancing	.65	.43	8/12	1.12	.42
	General Positive Affectivity	.78	.61	8/12	2.32	.09
	Affective Positive	.64	.41	8/12	1.02	.47
	Affective Negative	.64	.41	8/12	1.06	.45
	Demand Management Style	.55	.31	8/12	.66	.72
	Benign Management Style	.70	.49	8/12	1.50	.27
	Total Student Initiation	.66	.44	8/12	1.12	.39
	Total Teacher Acts	.67	.45	8/12	1.21	.37
Edwards Personal Preference Schedule: Variables 9-16: Intraception, Dominance, Abasement, Nurturance, Change, Endurance, Heterosexuality, Aggression	Teacher Directing	.58	.34	8/12	.78	.63
	Teacher Enhancing	.54	.29	8/12	.61	.76
	General Positive Affectivity	.78	.61	8/12	2.38	.09
	Affective Positive	.77	.60	8/12	2.21	.10
	Affective Negative	.71	.51	8/12	1.56	.24
	Demand Management Style	.72	.52	8/12	1.61	.22
	Benign Management Style	.90	.80	8/12	6.07	.003
	Total Student Initiation	.77	.59	8/12	2.14	.11
	Total Teacher Acts	.59	.35	8/12	.80	.61

significantly related to either of the two primary strategy teaching behaviors: Teacher Directing and Teacher Enhancing, nor are they related to Total Student Initiations or Total Teacher Acts (verbal). The teachers' Benign Behavior Management Style is the only behavior category predicted by personality needs; the second eight variables from the Edwards predict this at the .01 significance level.

Affective teacher behaviors alone are not related to personality needs as measured by the Edwards. The relationships between General Positive Affectivity and both sets of personality needs is closer to significance (p=.09). This teacher behavior category relates more to the teacher's tendency to positively reinforce children's responses during a learning situation. There is also a suggestion of a more positive relationship between the second set of personality needs and the Affective Positive teacher behavior category (p=.10); this refers to expressions of support and more general concern for the child's feelings. However, in summary, it could be said that teacher personality needs, as measured by the Edwards Personal Preference Schedule, are not, by themselves, related to either affective or strategy teacher behavior categories used in the present study.

b. Personality needs will be significantly related to connotative aspects of the teacher's perceptions, but not to behavioral aspects.

Table 7 shows the relationship between the teacher's personality needs and connotative aspects of the teachers'

perceptions of Target Children, as measured by the Semantic Differential. The Evaluative aspect of the teacher's feelings is not related to personality needs; the Potency aspect is predicted at the .05 level of significance by the 16 variables from the Edwards.

TABLE 7.--Regression Analyses Using Variables from the Edwards Personal Preference Schedule to Predict Teacher Perceptions of Target Children on Semantic Differential

Predictor	Criterion	r	r^2	DF	F ratio	p
Edwards Personal Preference Schedule: 16 Variables	Evaluative	.89	.78	16/4	.97	.58
	Potency	.99	.98	16/4	15.16	.01

Table 8 shows the relationship between the teachers' personality needs and the teachers' perceptions of the Target Child's behavior; the relationship is not significant at the .05 level for any of the three criterion variables.

TABLE 8.--Regression Analyses Using Variables from the Edwards Personal Preference Schedule to Predict Teacher Perceptions of Target Children on Behavior Rating Checklist

Predictor	Criterion	r	r^2	DF	F ratio	p
Edwards Personal Preference Schedule: 16 Variables	Conduct Problem	.90	.80	16/4	1.01	.44
	Personality Problem	.75	.57	16/4	.33	.95
	Inadequate-Immature	.92	.84	16/4	1.34	.42

c. Educational attitudes will be significantly related to strategy teacher behaviors, but not to affective teacher behaviors.

Table 9 shows the results of regression analyses using the six variables of the Teacher Practices Questionnaire to predict nine teacher behavior categories. The educational attitudes measured by this instrument are not, by themselves, related to Strategy Teacher Behavior categories. They are more related to Affective Teacher Behavior categories, predicting General Positive Affectivity at the .05 significance level. There is also an indication that the TPQ is related to the expression of Affective Positive and Affective Negative behaviors (p=.11, p=.08), although these relationships are not statistically significant.

TABLE 9.--Regression Analyses Using Variables from the Teacher Practices Questionnaire to Predict Teacher Behavior Categories

Predictor	Criterion	r	r^2	DF	F ratio	p
Teacher Practices Questionnaire: 6 Variables	Teacher Directing	.66	.43	6/14	1.74	.18
	Teacher Enhancing	.58	.34	6/14	1.18	.37
	General Positive Affectivity	.81	.66	6/14	4.53	.01
	Affective Positive	.70	.48	6/14	2.18	.11
	Affective Negative	.72	.52	6/14	2.48	.08
	Demand Management Style	.61	.37	6/14	1.37	.29
	Benign Management Style	.53	.28	6/14	.90	.53
	Total Student Initiation	.62	.38	6/14	1.43	.27
	Total Teacher Acts	.55	.30	6/14	1.00	.46

Table 10 shows the results of regression analyses utilizing the four variables of the Teacher Opinionnaire to predict the nine teacher behavior categories. The attitudes measured by this instrument do not predict strategy teacher behavior at a statistically significant level. One affective behavior category, General Positive Affectivity, is related to the Teacher Opinionnaire at the .001 significance level.

TABLE 10.--Regression Analyses Using Variables from the Teacher Opinionnaire to Predict Teacher Behavior Categories

Predictor	Criterion	r	r^2	DF	F ratio	p
Teacher Opinionnaire: 4 Variables	Teacher Directing	.46	.21	4/16	1.01	.41
	Teacher Enhancing	.26	.07	4/16	.29	.88
	General Positive Affectivity	.82	.67	4/16	8.27	.001
	Affective Positive	.45	.21	4/16	1.03	.42
	Affective Negative	.20	.04	4/16	.16	.95
	Demand Management Style	.39	.15	4/16	.72	.59
	Benign Management Style	.39	.15	4/16	.72	.59
	Total Student Initiation	.58	.34	4/16	2.02	.14
	Total Teacher Acts	.54	.30	4/16	1.68	.20

Table 11 represents a set of regression analyses to predict the nine teacher behavior categories from a Semantic Differential measure of connotative aspects of educational attitudes. The first predictor consists of variables 1-7 on the Semantic Differential, the second, variables 8-14 on the same instrument. These variables are listed in the predictor column. Each of the two sets of attitude variables is predicting the same nine teacher behavior categories. Neither of the sets of attitude predictors is related to strategy teaching behaviors. Only one criterion is predicted at a statistically significant level; Affective Negative is related to the first set of attitude variables at the .01 level of significance.

Therefore, hypothesis 2c is not confirmed; educational attitudes are not related to the strategy teacher behavior categories used in this study at a level of statistical significance. General Positive Affectivity and Negative Affect are related to attitude variables.

d. Educational attitudes will be significantly related to informational aspects of the teachers' perceptions of children, but not to connotative aspects of the teachers' perceptions of children.

Table 12 shows regression analyses using the six variables from the Teacher Practices Questionnaire to predict the teachers' perceptions of the Target Children's behavior. None of the relationships are significant at the .05 level of probability, although ratings on the

TABLE 11.--Regression Analyses Using Variables from the Semantic Differential, Connotative Aspects of Educational Attitudes, to Predict Teacher Behavior Categories

Predictor	Criterion	r	r^2	DF	F ratio	p
Semantic Differential: Variables 1-7: Children: Eval. Children: Pot. School: Eval. School: Pot. Self: Eval. Self: Pot. Teachers: Eval.	Teacher Directing	.67	.48	7/13	1.72	.19
	Teacher Enhancing	.68	.46	7/13	1.56	.23
	General Positive Affectivity	.66	.43	7/13	1.40	.28
	Affective Positive	.54	.29	7/13	.77	.62
	Affective Negative	.86	.74	7/13	5.27	.01
	Demand Management Style	.44	.20	7/13	.46	.85
	Benign Management Style	.53	.28	7/13	.73	.65
	Total Student Initiation	.56	.32	7/13	.86	.56
	Total Teacher Acts	.00	.00	7/13	0	1.00
Semantic Differential: Variables 8-14: Teachers: Pot. Ideal Self: Eval. Ideal Self: Pot. Prob. Child. Eval. Prob. Child. Pot. Mental Health: Eval. Mental Health: Pot.	Teacher Directing	.51	.26	7/13	.66	.71
	Teacher Enhancing	.26	.07	7/13	.13	.99
	General Positive Affectivity	.68	.47	7/13	1.62	.22
	Affective Positive	.58	.34	7/13	.94	.51
	Affective Negative	.46	.21	7/13	.49	.83
	Benign Management Style	.62	.39	7/13	1.36	.30
	Demand Management Style	.62	.39	7/13	1.17	.38
	Total Student Initiation	.59	.35	7/13	1.00	.53
	Total Teacher Acts	.49	.24	7/13	.58	.76

Personality Problem scale appear related to the TPQ (p=.06). Table 13 gives results of regression analyses to predict teachers' perceptions of the Target Children's behavior from the Teacher Opinionnaire. None of the relationships are statistically significant at the .05 level.

TABLE 12.--Regression Analyses Using Variables from the Teacher Practices Questionnaire to Predict Teacher Perceptions of Target Children on the Behavior Problem Checklist

Predictor	Criterion	r	r^2	DF	F ratio	p
Teacher Practices Questionnaire: 6 Variables	Conduct Problem	.20	.04	6/14	.10	.99
	Personality Problem	.73	.53	6/14	2.68	.06
	Inadequate-Immature	.29	.09	6/14	.22	.96

TABLE 13.--Regression Analyses Using Variables from the Teacher Opinionnaire to Predict Teacher Perceptions of Target Children by the Behavior Problem Checklist

Predictor	Criterion	r	r^2	DF	F ratio	p
Teacher Opinionnaire: 4 Variables	Conduct Problem	.54	.29	4/16	1.61	.22
	Personality Problem	.51	.26	4/16	1.41	.28
	Inadequate-Immature	.29	.09	4/14	.22	.96

Table 14 shows regression analyses using the Semantic Differential measure of educational attitudes to predict children's behavioral categories from the Behavior Problem Checklist. None of the relationships are statistically significant at the .05 level.

TABLE 14.--Regression Analyses Using Variables from the Semantic Differential, Connotative Aspects of Educational Attitudes, to Predict Teacher Perceptions of Target Children by the Behavior Rating Checklist

Predictor	Criterion	r	r^2	DF	F ratio	p
Semantic Differential: Variables 1-7	Conduct Problem	.59	.35	7/13	.98	.52
	Personality Problem	.62	.38	7/13	1.15	.39
	Inadequate-Immature	.62	.38	7/13	1.50	.39
Semantic Differential: Variables 8-14	Conduct Problem	.67	.45	7/13	1.49	.25
	Personality Problem	.48	.23	7/13	.57	.77
	Inadequate-Immature	.73	.53	7/13	2.08	.12

Table 15 shows regression analyses designed to predict connotative aspects of the teachers' perceptions of Target Children by using the Teacher Practices Questionnaire. None of the relationships are significant at the .05 level.

TABLE 15.--Regression Analyses Using Variables from the Teacher Practices Questionnaire to Predict Teacher Perceptions of Target Children on the Semantic Differential

Predictor	Criterion	r	r^2	DF	F ratio	p
Teacher Practices Questionnaire: 6 Variables	Evaluative	.23	.06	6/14	.14	.99
	Potency	.42	.18	6/14	.49	.80

Table 16 shows the same analyses using the Teacher Opinionnaire as a predictor set; there are no statistically significant relationships.

TABLE 16.--Regression Analyses Using Variables from the Teacher Opinionnaire to Predict Teacher Perceptions of Target Children by the Semantic Differential

Predictor	Criterion	r	r^2	DF	F ratio	p
Teacher Opinionnaire: 4 Variables	Evaluative	.30	.09	4/16	.40	.81
	Potency	.48	.23	4/16	1.22	.34

Table 17 shows the same analyses, using the Semantic Differential measure of educational attitudes as predictor sets. There is one statistically significant relationship; Semantic Differential variables 8-14 predict the teachers' Potency response to Target Children at the .05 level.

TABLE 17.--Regression Analyses Using Variables from the Semantic Differential, Connotative Aspects of Educational Attitudes, to Predict Teacher Perceptions of Target Children by the Semantic Differential

Predictor	Criterion	r	r^2	DF	F ratio	p
Semantic Differential: Variables 1-7	Evaluative	.68	.46	7/13	1.57	.23
	Potency	.52	.27	7/13	.68	.69
Semantic Differential: Variables 8-14	Evaluative	.62	.38	7/13	1.14	.40
	Potency	.80	.64	7/13	3.34	.03

Therefore, hypothesis 2d is not confirmed. Educational attitudes, by themselves, are not related to

informational aspects of the teachers' perceptions of Target Children. One variable from the connotative aspects of teacher perceptions of Target Children was significantly related to teacher attitudes.

In summary, hypothesis 2, that utilization of all variables together within a predictor instrument will result in stronger relationships with criterion variables than variable by variable correlations, is confirmed only to a limited degree. Considering the regression analyses just reported, four out of nine teacher behavior categories show a statistically significant relationship with one or another of the predictor instruments. Two other teacher behavior categories, although not significant at the .05 probability level, demonstrate relationships with predictors close to significance ($p=.10$). Subhypotheses concerning certain instruments being more related to either strategy or affective teacher behavior categories received only partial support; the personality and attitude measures used in this study all seem more related to the display of affective teacher behavior, rather than teacher behaviors representing instructional strategies in the more academic or achievement oriented sense. None of the predictor instruments, by themselves, predict the categories of Teacher Directing or Teacher Enhancing behavior, both of these being highly related to instructional strategies. Furthermore, none of these instruments predict Student Initiations or Total Teacher Activity.

Using teacher perceptions of the Target Children as a criterion produces much the same picture. Instruments from the dimensions of teacher personality and attitudes predicted only two of the five Teacher Perception categories at a statistically significant level. Any differential relationship between certain predictor instruments and informational or connotative aspects of teacher perceptions of Target Children is not apparent in these data. Therefore, only tenuous support for hypothesis 2 can be found.

Hypothesis 3: Utilization of combined predictor variables from the dimensions of Teacher Personality and Teacher Attitudes will result in significant relationships with both strategy teacher behavior and affective teacher behavior.

Table 18 gives the results of utilizing combined variables from both the Personality and Attitude dimensions together to predict the nine behavioral categories. The second column in Table 18, labelled 'D', shows the direction of the correlation, i.e., either positive (+) or negative (-). Six of the nine categories are significantly related at the .05 level to the different combined predictor variables, creating some support for this hypothesis. These include two of the three primary affective categories, and one of the two primary strategy categories, along with management strategies and pupil initiation. The activity level of the teacher is not significantly related to any of the predictor variables, nor is the Teacher Directing category, which is the tendency for the teacher to lecture,

TABLE 18.--Regression Analyses Using Combined Variables from Different Instruments and Dimensions to Predict Teacher Behavior Dimensions

Predictors	D	Criterion	r	r^2	DF	F ratio	p
Content Didactic	+	Teacher Directing	.72	.51	8/12	1.57	.23
Student Discovery	-						
Development	+						
Order	+						
Dominance	-						
Children: Pot.	+						
School: Eval.	+						
Content Discovery	-	Teacher Enhancing	.78	.60	7/13	2.81	.05
Mental Health: TO	-						
Achievement	-						
Autonomy	+						
Children: Pot.	+						
Teachers: Eval.	-						
I Am: Pot.	-						
n Order	-	General Positive Affectivity	.87	.76	7/13	5.92	.01
n Dominance	+						
Content Didactic	-						
Social N Didactic	-						
Children: Eval.	+						
Self: Eval.	+						
Mental Health: Eval.	+						
Content Did.	-	Positive Affect	.77	.60	8/12	2.73	.10
Social Did.	-						
Social Disc.	-						
Development	+						
Order	-						
Dominance	+						
Child: Eval.	+						
Mental Health: Eval.	+						
Content Did.	+	Negative Affect	.83	.69	5/15	6.64	.002
Social Did.	+						
Change	-						
Children: Eval.	-						
I Am: Pot.	+						
Student Did.	+	Demand Management Style	.70	.49	4/16	3.78	.02
Affiliation	+						
Abasement	+						
Mental Health: Eval.	-						
Content Did.	+	Benign Management Style	.80	.64	5/15	5.43	.01
Affiliation	+						
Intraception	-						
Ideal Self: Pot.	+						
Mental Health: Pot.	+						
Content Did.	-	Student Initiation	.84	.70	8/12	3.53	.02
Content Disc	-						
Student Did.	-						
Development	+						
Affiliation	-						
Intraception	+						
I Am: Eval.	+						
Teachers: Pot.	-						
Content Did.	+	Total Teacher Acts	.63	.40	7/13	1.24	.35
Student Disc.	-						
Order	+						
Children: Pot.	+						
School: Eval.	+						
School: Pot.	+						
I Am: Eval.	+						

give many specific directions, and ask convergent questions. Therefore, by using variables together which represent different psychological characteristics of the teacher, it is possible to predict more aspects of the teacher's classroom behavior. However, generalization of results to other classrooms would be premature, since this represents a post hoc type of analysis; predictor variables were chosen on the basis of presenting correlations with behavioral criteria, as well as for their theoretical relevance to the display of certain kinds of teacher behavior.

Hypothesis 4: Utilization of combined predictor variables from the dimensions of teacher personality and teacher attitudes will result in significant relationships with both behavioral and connotative aspects of the teachers' perceptions of Target Children.

Table 19 shows the results of using variables from both the Personality and Attitude dimensions to predict the teachers' perceptions of the Target Children's behavior on the Behavior Problem Checklist. Two of these categories are significantly related to the different predictor variables at the .05 level, and the third shows evidence of a possible relationship (p=.07). The second column in Table 19, labelled 'D', indicates the direction of relationship between each predictor variable and the criterion being predicted.

TABLE 19.--Regression Analyses Using Combined Variables from Personality and Attitude to Predict Teacher Perceptions of Target Child Behavior

Predictors	D	Criterion	r	r^2	DF	F ratio	p
Learning	+	Conduct	.83	.68	9/11	2.65	.07
Mental Health	-	Problem					
Development	+						
Consistency	+						
Abasement	+						
Children: Pot.	+						
I Am: Eval.	+						
I Am: Pot.	+						
Mental Health: Pot.	+						
Content Disc.	-	Personality	.76	.57	6/14	3.14	.04
Development	+	Problem					
Exhibitionism	+						
Affiliation	-						
I Am: Eval.	+						
Ideal: Eval.	+						
Content Disc.	+	Inadequate-	.86	.75	10/10	2.94	.05
Learning	+	Immature					
Mental Health	+						
Group Process	-						
Development	+						
Deference	-						
Autonomy	-						
Succorance	+						
I Am: Eval.	+						
Teacher: Eval.	+						

Table 20 shows the results of using variables from both the Personality and Attitude dimensions to predict connotative aspects of the teachers' perceptions of Target Children, i.e., how did the teachers feel about these children. The different predictor variables were significantly

related at the .05 level to the teachers' evaluative response to the Target Children. The teachers' potency response to these children showed evidence of a possible relationship with predictor variables (p=.07).

TABLE 20.--Regression Analyses Using Combined Variables from Personality and Attitude to Predict Semantic Differential Ratings of Target Children

Predictors	D	Criterion	r	r^2	DF	F ratio	p
Learning	-	Evaluative Rating of Target Children	.77	.59	6/14	3.33	.03
Consistency	-						
Affiliation	-						
Children: Pot.	-						
I Am: Pot.	-						
Mental Health: Pot.	-						
Content Disc.	+	Potency Rating of Target Children	.80	.64	8/12	2.61	.065
Student Disc.	+						
Group Process	-						
Autonomy	-						
Succorance	+						
Change	-						
I Am: Pot.	+						
Prob. Child: Pot.	+						

Therefore, both behavioral and connotative aspects of the teachers' perceptions of Target Children seem related to selective predictor variables from the teachers' Personality and Attitude dimensions, three criteria being predicted at a level of statistical significance ($p<.05$), and two at levels nearly attaining statistical significance. Again, for generalization of these results, it should be pointed out that these represent post hoc analyses, the predictor variables

being chosen on the basis of demonstrated relationships with perception categories, as well as theoretical relevance.

Hypothesis 5: Dividing the total sample of teachers into subgroups on the basis of similar psychological and behavioral characteristics will result in combinations having greater face validity for the understanding of classroom psychological climate.

In an effort to examine the relationship between classroom system components more clearly, it was decided to consider the possibility that subgroups within the teacher sample might be varying along certain dimensions in such a way as to disguise or dilute some of these relationships. This was done by using a hierarchical grouping analysis, Program HGROUP (Veldman, 1970). For this particular analysis, the five group step was chosen, which has an error term of 74.09. A larger number of groups would have lowered the error term, but proved inefficient in terms of data summary; a smaller number of groups would have resulted in error terms so large that the grouping would have little meaning. Table 21 gives the results of this analysis. All variables from the components of Personality, Attitude Structure, and Teacher Behavior were utilized in the analysis. Only those variables which successfully discriminated among the five groups are included in the following two tables.

TABLE 21.--Subject Subgroups According to Hierarchical Grouping Analysis of all Variables from Personality, Attitudes, and Teacher Behavior

Variable	Group 1 N=1	Group 2 N=6	Group 3 N=5	Group 4 N=3	Group 5 N=5
Content Did.	-.96	-.91	+1.1	+0.62	-0.19
Social N Did.	-1.30	-0.76	+0.84	+0.77	-0.13
Development	-0.95	+0.22	-0.18	-1.30	+0.88
Affiliation	-0.18	+0.43	+0.48	+0.31	-1.14
Intraception	+0.53	+0.53	-0.99	-0.60	+0.61
Change	+0.19	-0.82	-0.35	+0.72	+0.86
School: Eval.	-2.17	-0.07	+0.71	-0.92	+0.37
I Am: Eval.	-0.59	+0.84	-0.08	-1.09	-0.16
I Am: Pot.	-1.14	+0.07	+0.86	-0.93	-0.16
Teachers: Eval.	-2.86	+0.28	+0.63	-0.99	+0.20
Ment. H.: Eval.	+1.44	+0.70	-0.03	-1.71	-0.08
Teach. Direct.	-0.10	-0.86	+1.22	-0.83	+0.33
Gen. Pos. Afft.	-0.87	+0.99	-0.54	-0.80	+0.01
Tot. Acad. Act.	+0.47	-1.04	+1.09	-0.77	+0.52
Tot. Mgt. Acts	+0.79	-0.44	+1.23	-0.28	-0.69
Benign Mgt.	+0.82	-0.32	+1.13	-0.11	-0.85
Neg. Mgt. Res.	+0.83	-0.51	+1.18	-0.07	-0.69
Tot. Teach. Init.	+0.20	-0.75	+1.32	-0.88	+0.07
Tot. Stud. Init.	+0.13	-0.12	-0.81	-0.66	+1.32
Tot. Teach. Acts.	+0.23	-0.78	+1.11	-1.01	+0.38

*All scores reported above are group means derived from standardized scores, which have a mean equal to zero and a standard deviation of one.

TABLE 22.--Subject Subgroups and Characteristic Variables According to Distance from Total Group Means; Variables from Personality, Attitude, and Teacher Behavior Dimensions

Group	N	1 s.d. above mean	.5-1 s.d. above	1 s.d. below mean	.5 s.d. below
One	1	Ment. Health: Eval. Teacher Enhancing	Intraception Total Mgt. Acts Benign Mgt. Neg. Mgt. Resp.	Cont. Did. Social Did. Development School: Eval. I Am: Pot. Teachers: Eval.	I Am: Eval. Gen. Positive Affect
Two	6	Gen. Pos. Affect.	Intraception I Am: Eval. Ment. Health. Eval.	Content Did. Tot. Acad. Act.	Social Did. Change Teacher Direct Neg. Mgt. Response Tot. Teacher Initiation Total Teacher Activity
Three	5	Content Did. Teacher Direct. Tot. Acad. Act. Tot. Mgt. Acts Benign Mgt. Neg. Mgt. Resp. Tot. Teach. Init. Tot. Teacher Act	Social Did. Affiliation School: Eval. I Am: Pot. Teachers: Eval.	Intraception	Gen. Pos. Affect Tot. Student Initiate
Four	3		Content Did. Social Did. Change	Development School: Eval. I Am: Eval. I Am: Pot. Teacher: Eval. Mental Health: Eval. Tot. Teacher Acts	Intraception Teacher Direct. Gen. Pos. Affect. Tot. Teacher Initiate Tot. Student Initiate
Five		Tot. Stud. Init.	Development Intraception Change Tot. Acad. Act.	Affiliation	Tot. Mgt. Acts Benign Mgt. Style Neg. Mgt. Resp.Style

Table 22 shows the five subgroups derived from the hierarchical grouping analysis, and the dominant psychological and behavioral characteristics of the teachers within each of these subgroups. Reference to this table indicates that the grouping process actually produced three groups, one small group, and a group consisting of only one subject, an Experienced Teacher. Groups two and three seem relatively straightforward; Group two teachers tended to be more supportive and less directive, showed lower academic activity, and did not see teaching in terms of information giving and lecturing. They were also somewhat higher than the other groups on Intraception needs and on their evaluation of themselves and the concept of mental health. This group was made up of two Experienced and three Inexperienced teachers; their average age was 22.8, ranging from 19 to 32. By contrast, Group three engaged in more traditional and directive teaching behaviors, saw teaching more directly in terms of giving information and asking convergent questions, and were relatively low in the amount of affective support and encouragement given to children within their classes. Their average age was 32.8, ranging from 22 to 46, and the average number of years teaching was five. This group consisted of three Experienced and two Inexperienced teachers.

Group four, made up of one Experienced and two Inexperienced teachers, rated school, teachers, themselves, and mental health considerably more negatively on the Evaluative dimension than did the rest of the teachers in

the total sample; they were also somewhat lower than others on both supportive and directive teaching behaviors. These three teachers were also somewhat above the mean on Content and Social Didactic from the Teacher Practices Questionnaire, and somewhat lower on the need for Intraception. Thus, in their somewhat traditional attitudes toward school, and their profile on the Edwards, this group bears considerable resemblance to the highly traditional Group three. However, for Group four, these attitudes do not translate themselves in the same manner into classroom behavior, in the sense that they are lower than the others on most aspects of teaching behavior, i.e., they are much less active in almost all teaching behaviors. At the same time, they are the lowest of all the groups on the Evaluative connotation which they attach to such concepts as school, teachers, and mental health.

Group five is the highest of the groups in encouraging student initiations of verbal interchanges; they are also high on the need characteristics of Deference, Order, and Endurance, low on Affiliation and Heterosexuality, and somewhat low on the number of management acts they engage in. Thus, they show personality characteristics more consonant with those of teachers reported in other studies, engage in a reasonably high level of academic activity, but somehow structure the teaching situation in such a way as to encourage more direct verbal participation by the

children. This group is made up of two Experienced and three Inexperienced teachers, with a mean age of 28, ranging from 21 to 44.

Finally, the one Experienced teacher who made up Group one was quite deviant from the rest of the group in many of her attitudes and behaviors. She is the one teacher who really engaged in a significant amount of Teacher Enhancing behavior, i.e., asking divergent questions, structuring situations in terms of problems, and in general encouraging children to engage in the process of discovering things on their own. She also attached high Evaluative and Potency connotations to the concept of mental health, while putting much less value on the didactic aspects of educational practice. Interestingly, this teacher also rated school and teachers low on the Evaluative dimension, and herself on the Potency dimension.

In terms of teachers' perceptions of the Target Children, there was considerable agreement through all five groups. The more authoritarian, directing Group three teachers tended to rate children as having a somewhat greater number of conduct problems, and as being slightly less mature and adequate. Group four, which was more inactive in teaching and also saw school related values in more negative terms, saw few conduct problems in their children, and were more than one standard deviation below the total group mean on the Inadequate-Immature dimension, i.e., they tended to see their children as more

mature than the other subgroups did, and somewhat less potent. There was considerable variance of teachers' perceptions within subgroups which, along with the agreement among teacher pairs, tends to support at least the reliability of these ratings of children. Interestingly, only two of the ten teacher pairs are found in the same subgroup, in spite of their professed agreement on goals and strategies.

Hypothesis 6: The training process will be associated with change in some dimensions of the classroom system which contribute to classroom psychological climate:

a. During the training program there will be no significant change in the teachers' self feelings.

Table 23 shows analyses of variance for differences on self feelings between the beginning and end of the training program; these analyses are analogous to a t test between two correlated groups of scores (Veldman, 1967), as are all other tests of differences reported in this section. Contrary to hypothesis 6a, the teachers' self feelings along the Evaluative dimension decreased between the two testing periods, the difference being statistically significant at the .01 level. Their Evaluative rating of the ideal self also decreased at a level approaching statistical significance ($p=.06$). There was no statistically significant change on the Potency dimension for real or ideal self.

TABLE 23.--Analysis of Variance between Pretest and Posttest of Self Feelings as Measured by the Semantic Differential

Variable	Pretest Mean	Posttest Mean	F ratio	p
Self: Evaluative	55.8	53.1	11.2	.004
Self: Potency	38.2	39.2	.8	.62
Ideal Self: Evaluative	62.2	60.3	4.07	.06
Ideal Self: Potency	39.1	39.7	.29	.60

b. During the training program there will be no significant change in informational aspects of the teachers' attitude structure.

Informational aspects of the teachers' attitude structure, in regard to educational practices, were measured by the Teacher Practices Questionnaire and the Teacher Opinionnaire. Table 24 shows analyses of variance for variables from the Teacher Practices Questionnaire, Table 25 for the Teacher Opinionnaire. There were no statistically significant changes during the course of the training program, confirming hypothesis 6b.

c. During the training program there will be a significant positive change in the connotative aspects of the teachers' attitude structure.

Table 26 shows analyses of variance for connotative aspects of the teachers' attitude structure, which were measured by use of a Semantic Differential. For the ten

TABLE 24.--Analysis of Variance between Pretest and Posttest of Variables on the Teacher Practices Questionnaire

Variable	Pretest Mean	Posttest Mean	F ratio	p
Content Didactic	51.9	51.2	.29	.60
Content Discovery	71.0	74.1	2.35	.14
Student Didactic	71.0	71.1	.01	.95
Student Discovery	84.0	83.6	.12	.73
Social Norm Didactic	40.6	40.1	.11	.74
Social Norm Discovery	73.3	72.9	.15	.70

TABLE 25.--Analysis of Variance between Pretest and Posttest of Variables on the Teacher Opinionnaire

Variable	Pretest Mean	Posttest Mean	F ratio	p
Learning	24.8	24.8	0	1.0
Mental Health	29.2	28.8	.45	.52
Group Process	20.3	19.6	2.14	.16
Development	25.7	26.5	1.6	.22

TABLE 26.--Analysis of Variance between Pretest and Posttest of Variables on the Semantic Differential Measure of Connotative Aspects of Teacher Attitudes

Variable	Pretest Mean	Posttest Mean	F ratio	p
Children: Evaluative	55.1	52.6	4.5	.05
Children: Potency	36.8	38.4	1.2	.29
School: Evaluative	49.2	47.8	1.1	.30
School: Potency	49.0	48.3	.31	.59
Teachers: Evaluative	52.1	51.7	.07	.79
Teachers: Potency	45.7	45.5	.05	.82
Problem Children: Evaluative	37.2	37.3	.02	.90
Problem Children: Potency	42.8	41.4	1.6	.23
Mental Health: Evaluative	55.7	54.6	.48	.51
Mental Health Potency	46.4	45.6	.78	.61

variables included in this instrument, there is only one statistically significant difference: the Evaluative rating of children decreased at the .05 level of significance. There were no other statistically significant changes. Therefore, hypothesis 6c is not supported by the data.

d. During the training program there will be no significant change in informational aspects of the teachers' perceptions of children.

Table 27 shows analyses of variance for pre and post-test measures of the teachers' perceptions of the behavior of Target Children, measured by the Behavior Problem Checklist. There are significant differences along all three behavioral variables; in each case, the teachers saw fewer problem behaviors in these children at the end of the program than they did at the beginning. Therefore, hypothesis 6d is not confirmed.

TABLE 27.--Analysis of Variance between Pretest and Posttest of Variables from the Behavior Problem Checklist

Variable	Pretest Mean	Posttest Mean	F ratio	p
Conduct Problem	11.3	8.1	19.2	.0002
Personality Problem	7.2	5.8	6.4	.01
Inadequate-Immature	3.7	2.8	10.0	.003

e. During the training program there will be positive change in connotative aspects of the teachers' perceptions of children.

Table 28 shows analyses of variance for differences between initial and final responses on the Semantic Differential rating of connotative aspects of the teachers' perceptions of the Target Children. Their evaluative response to these children increased positively at the .01 level of significance. There was no statistically significant change

along the potency dimension. Therefore, hypothesis 6e is partially confirmed; teachers appeared to value these children along a goodness dimension to a greater extent at the end of the program, but did not see them as being more powerful.

TABLE 28.--Analysis of Variance between Pretest and Posttest of the Semantic Differential Measure of Teachers' Perceptions of Target Children

Variable	Pretest Mean	Posttest Mean	F ratio	p
Evaluative	43.3	46.5	11.7	.002
Potency	38.2	38.5	.13	.72

In summary, the teachers' Evaluative rating of self and ideal self decreased during the course of the training program. The teachers' perceptions of the behavior of the Target Children changed within each of the three categories during the program; in each category, this change was in the direction of perceiving fewer behavioral problems. Connotative aspects of the teachers' perceptions of these same children also changed during the program, the teachers rating children more positively on the Evaluative dimension of the Semantic Differential.

Additional Results

Several of the hypotheses in this study are related to relationships between different variables and dimensions within the classroom system, using correlations or regression analyses to investigate these relationships. In view of the rather consistent lack of relationships between any particular psychological dimension and categories of teacher behavior, it might be informative to look at some of the data on a more descriptive basis, particularly in respect to educational attitudes and teacher behavior within the classroom.

Table 29 gives means and standard deviations for the total group of twenty teachers on the Teacher Practices Questionnaire. It may be recalled that there were no statistically significant differences between the Experienced and Inexperienced groups of teachers on any of these six dimensions.

TABLE 29.--Raw Score Means and Standard Deviations for Teacher Practices Questionnaire

Variable	Total Group Mean	S.D.
Content Didactic	51.6	10.5
Content Discovery	72.5	8.0
Student Norm Didactic	71.1	11.6
Student Norm Discovery	83.8	9.9
Social Norm Didactic	40.4	10.6
Social Norm Discovery	73.1	10.0

These total group means reveal a consistent preference for the Discovery mode in all three areas; this is clearest in relation to Content goals, or academic learning, and Social Norm goals, which refer to learning rules and the ability to work together and relate within a group. Mean scores on the TPQ obtained from two groups of teacher credential candidates at UCLA tend to highlight the distinctive pattern of the present group of teachers in regard to this instrument; these two samples both have mean scores consistently higher on the Didactic dimensions of all three goal areas: ten points higher for Content and Student Didactic, and almost 20 points higher for Social Norm Didactic (Sorenson, 1966). Standard deviations for these two groups are almost exactly the same as for the present sample. Therefore, on the basis of performance on this instrument, the sample of teachers in the present study appears to hold attitudes which favor less authoritarian, or teacher directive, approaches to classroom instruction, while valuing approaches that would allow children to engage, to some extent, in a discovery process as they learn both academically and socially. These attitudes are consistent with those expressed more spontaneously by many of the teachers in interview situations. In view of these findings, it is interesting to look at the behavior of these teachers within their classroom settings.

The expressions 'teacher-centered' and 'pupil-centered' have often been used to describe a theoretical

dimension along which teachers may vary in reference to aspects of teacher control and authority (Withall, 1949). Table 30 shows percentages dealing with two aspects of this dimension: locus of teacher control and locus of initiation (teacher or student). The teacher control dimension is represented by two combined scores, labelled Teacher Directing and Teacher Enhancing. The Teacher Directing category includes such behaviors as telling pupils what to do, asking convergent questions, giving straight information within a lecture format, etc. The second category is called Teacher Enhancing; this refers to behaviors such as describing options available for pupils to engage in, asking divergent questions, and structuring information in a problem solving format. The second dimension, Initiation, refers simply to whether the teacher or a pupil initiates any particular verbal interchange. Reference to Table 30 indicates that, on the basis of these dimensions, the ten classrooms in this study can be characterized as predominantly teacher controlled, or teacher-centered.

Table 31 refers to the amount and kind of affective support provided by the teachers in these ten classrooms. Three contrasting sets of behavioral dimensions are utilized to describe this dimension. The first is called Affectivity, and includes those statements which are primarily described as showing either concern or disdain for the child; these are nonsubstantive remarks

TABLE 30.--Percentage Scores from OScAR 4V Indicating Extent of Teacher Control

Behavioral Category	Mean Percentage Score
Teacher Directing	82%
Teacher Enhancing	18%
Teacher Initiation	91%
Pupil Initiation	9%

TABLE 31.--Percentage Scores from OScAR 4V Indicating Teacher Affective Behavior

Behavior Category	Mean Percentage Score
Affectivity	
Positive	77%
Negative	23%
Affective Index	
Non-affective Statements	91%
Affective Statements	9%
Management Response Style	
Positive Response to Conform	8%
Ignore Conform	88%

in the sense that they refer directly to the child, rather than to subject matter concerns. The second set is called an affectivity index, and contrasts those statements which are assumed to be primarily non-affective in their intent, e.g., asking questions or telling where supplies are located, to remarks which seem to carry a more intense affective connotation, e.g., responding positively to a child's suggestion or positively reinforcing a child's response. These affective teacher behaviors are assumed to be supportive and approving in intent; negative responses are not included. The third set is labelled Management Response Style. Assuming that a teacher has intervened directly into a child's behavior in a management episode, this category refers to the nature of her response if the child conforms to her desires.

Thus teachers in this sample evidence concern and approval in their verbal behaviors approximately three times as often as they show disapproval or denigration. However, within the fabric of all teacher statements, those primarily intended to support, approve, or encourage the child make up less than ten per cent. This is not to imply that 'cognitive' teacher statements, such as a convergent question, do not carry affective connotations to a child, but that those statements intended to communicate positive affectivity make up a relatively small fraction of all teacher statements.

The third set in Table 31, Management Response Style, is interesting in terms of generally accepted approaches to behavior management. It must be remembered that these management episodes are not procedural, but refer to occasions when the teacher intervenes directly in order to stop or change the ongoing behavior of an individual child. In this sample, if the child conforms to the teacher's request, the probability is high that she will ignore his response and continue with whatever teaching activity had been interrupted by the management episode. It could be argued that the teachers were reinforcing by some nonverbal means, such as a pat on the head, although relatively few instances of this kind of response were observed.

Table 32 represents a third behavioral dimension of interest, i.e., the amount of time spent in academic vs. social kinds of classroom activities. Academic activities refer to those verbal behaviors which are substantive, or subject matter oriented, whether initiated by the teacher or child; social activities refer to games, spontaneous group discussions, free play, etc. It can be seen that the inhabitants of these primary level classrooms spent the great majority of their time pursuing primarily academic kinds of activities.

Therefore, looking at these data more descriptively reveals a considerable discrepancy between measured and stated educational attitudes and goals, and the actual

TABLE 32.--Percentage Means for OScAR 4V Indicating Ratio of Academic to Social Activity

Behavior Category	Mean Percentage Scores
Academic Activities	71%
Social Activities	29%

behavior these teachers display in the classroom. Reference to the hierarchical grouping analysis reported earlier in this chapter sheds some light on this problem, in that some of the subgroups seemed more consistent in attitude and behavioral variables. However, for much of this group of teachers, the discrepancy seems at least worthy of comment, and presents problems for both theorists and interventionists.

C H A P T E R V

DISCUSSION AND IMPLICATIONS

Summary of Results

Correlational and regression analyses included four major aspects of the classroom system: the teachers' personality needs and educational attitudes as predictors, and the teachers' behavior and perceptions of Target Children as criteria. Variable by variable correlations reaching statistical levels of significance among these four dimensions barely exceeded the number expected by chance. Due to the complexity of a functioning classroom system, it had been predicted that most relationships between psychological and behavioral variables would be reflected by numerous low order correlations, which was the case in this study.

Utilizing all variables within each particular predictor instrument in regression analyses resulted in somewhat better predictions, although only four out of nine teacher behavior categories showed relationships reaching statistical significance. These analyses indicated that the instruments used to measure personality needs and educational attitudes were more related to affective teacher behaviors than to teaching strategies. These same instruments predicted only two out of five dimensions from the

teachers' perceptions of Target Children at a statistically significant level. There were no differential relationships apparent between the dimensions of personality and attitude with informational or connotative aspects of the teachers' perceptions of Target Children.

The complexity and interactive aspects of the classroom system were highlighted by the results of combining predictor variables from both the dimensions of teacher personality and attitude structure in order to predict teacher behavior categories or perceptions of Target Children. These combined predictor variables were significantly related to six of the nine teacher behavior categories, including those primarily related to affective behavior, management style, student initiation, and the tendency of the teacher to be less directive in her style and to encourage student involvement in the process of learning (Teacher Enhancing). Using teacher perceptions of Target Children as criteria, all five categories were predicted at or near levels of statistical significance. Therefore, at least for this sample, it would seem necessary to gain knowledge concerning both personality needs and attitude variables in order to predict teacher perceptions and behavior at all accurately. There is not a one to one relationship between aspects of either of these dimensions by themselves and the teacher's classroom behavior.

In order to examine the possibility of the existence of subgroups within the total teacher sample, and to gain

some better idea of the manner in which psychological and behavioral characteristics might be related in generating particular classroom psychological climates, a hierarchical grouping analysis was carried out. Five groups resulted from this particular analysis: two of these subgroups resembled the traditional teacher-centered and pupil-centered dichotomy, both in their attitudes and feelings about educational practices, and their actual teaching behaviors. A third group resembled the more traditional one in several ways, although they were much less active in their teaching behaviors, fairly directive but low on management activity, and produced classroom climates which apparently encouraged a high level of student initiations. The fifth group contained only one teacher, who consistently and actively encouraged a discovery learning process. Teachers in all five of these subgroups demonstrated similar personality needs and perceptions of Target Children, which varied between subgroups. The difference between groups suggest that a bipolar conceptualization of classroom climate, as a result of direct or indirect teacher behavior, may be overly simplistic and therefore have relatively low explanatory power as a construct.

There were certain changes in teacher characteristics over the period of the training program, although the present design is such that there is no way of knowing whether they were caused by program experiences. The teachers' Evaluative rating of their real and ideal selves

decreased during the six week program, as did their Evaluative rating of children. Although this may be discouraging from the standpoint of an inservice program, the changes in the teachers' perceptions of the Target Children would seem to offer some encouragement. On the Behavior Rating Checklist, the total group saw significantly fewer problem behaviors in the Target Children at the end of the program than at the beginning; they also increased their Evaluative rating on the Semantic Differential at the level of statistical significance. These data would indicate that, as a group, the teachers saw the Target Children much more positively at the end of the training program.

Limitations of the Study

The sample size, consisting of ten classrooms and twenty teachers, certainly limits generalization of results, and also tends to reduce the power and/or usability of statistical analysis techniques. However, it seems obvious that one criterion for selecting the size of a sample revolves around the purposes of the study (Hayes, 1963); a test of a specific hypothesis might well call for a larger sample, while a descriptive and exploratory study such as this obviously places constraints on the amount of data which one person can hope to collect. Therefore, in order to attempt fairly comprehensive data collection with the resources available, the present sample was seen as a reasonable compromise.

Another question relating to the sample refers to the manner in which it was selected. In one sense, the sample is self selected, since all twenty teachers volunteered for the Project. How representative it is would seem to be a moot point; obviously the teachers involved were motivated at least to the point of gaining credit hours beyond minimum requirements, and perhaps to increase their options for more effective teaching. In any case, they were from very different kinds of schools, and varied by age and teaching experience. If they do represent, in some sense of the word, a select group, the results of the teacher observations would seem even more compelling as representing the dominant mode of teaching behavior in primary classrooms.

Perhaps the most serious limitation of the study, in hindsight, relates to the instruments utilized to collect data. The paradigm of a classroom system presented in Chapter One set the framework for the choice of instruments; the issue then revolved to the design and development of instruments to fit the study, or the choice of devices already tested and somewhat refined. Again, the constraints of time mitigated against the design of instruments specifically for this study, and choices were made which hopefully would result in the best possible fit. The results seemed to indicate that the Edwards Personal Preference Schedule, the Semantic Differential, and the Teacher Practices Questionnaire, along

with the modified OScAR technique seemed somewhat appropriate for this kind of study from the standpoint of face validity. However, it is at least a conceivable possibility that given instruments designed specifically for the study, the number of significant correlations and the predictive power of certain variables would stand to be increased. For example, it would be interesting to use an instrument similar to the TPQ matched directly with concepts rated on the Semantic Differential. In this light, it is somewhat intriguing that the most dominant of the teacher behavioral categories, Teacher Directiveness, was not significantly related to any of the predictor variables, either singly or in combination; affective-expressive aspects of teaching and, to some extent, the more rare Teacher Enhancing category, were significantly related to other aspects of the system variables. It would seem possible that this variance might be accounted for in two ways: first, it may be that other, untapped teacher attitudes and perceptions may be more related to the expression of directive teaching patterns. Secondly, and at the same time, it could be that directing and structuring the learning environment may also be highly related to press enamating from the expectations of other teachers, principals, and the community. In any event, it is assumed that relationships between system components of a greater magnitude would result from the design of instruments more clearly related, on both operational and theoretical terms, to the constructs present in the model.

One further limitation includes the sampling involved in gathering behavioral observations. In particular, the lack of opportunity to gather comprehensive and consistent observational data on the Target Children has already been discussed, and is seen as one of the major reasons for the lack of more significant relationships between other system variables and the behavior of these children.

Discussion of Results

In spite of the ordered arrays of data presented in the preceding chapter, what seems to emerge with considerable force from this study is the perhaps bewildering but certainly fascinating complexity of an ordinary classroom system. If nothing else, it certainly should engender a healthy skepticism toward facile generalizations concerning appropriate educational practice; considering the multiple variables contributed to classroom settings by individual and group process dynamics not even touched upon in this study, one might question the readiness of education as a behavioral science for so presumptive and confident a word as "prescription" (Peters, 1967).

Two other interesting conclusions seem inherent in the data, and will be mentioned briefly before a more specific discussion of the concept of a classroom system and its relationship to classroom climate. The first of these involves the old distinction between what one says and what one does, and its relationship to educational research and conceptualizations of classroom practice. Certainly it is

clear in these results that holding a certain educational attitude, at least as measured by the present instruments, will not consistently predict classroom behavior congruent with that attitude. For example, the teachers in this sample clearly favor, as a group, a discovery vs. didactic approach to both teaching and group management, as measured by the Teacher Practices Questionnaire. However, their behavior in classroom situations usually followed a pattern which could only be described as didactic and directing, if not authoritarian. It could be argued that the reason for this apparent contradiction lies in a lack of validity inherent in the measuring instruments used; that they were instead measuring a strong need on the part of the teachers to enhance their social desirability in the eyes of the experimenter or Project staff, or some other slippery response set. However, the author had the opportunity to interview most teachers involved toward the completion of the Project, and most of them spontaneously mentioned that one of their major goals was to stimulate and enhance the child's ability to learn and behave independently, and to make school an enjoyable experience. The important point here is that none of them seemed to recognize any discrepancy between their goals and the actual behavioral strategies utilized in the classroom. This tentative conclusion is not intended to imply criticism; there are many possible reasons for a person acting in a manner somewhat inconsistent with his stated goals; two of them might relate to a

lack of perceived options because of externally imposed constraints, or a lack of knowledge as to strategies effective for reaching certain goals, so that these findings do not necessarily convey any sense of hypocrisy. The importance of the point is that the inconsistencies do seem to exist, and that they have important implications for both research and training, which will be discussed later in more detail.

The other finding which seems to emerge from the present data concerns the assumption in much educational research of the existence of certain fundamental bipolarities underlying much of what a teacher does within a classroom. It is certainly obvious that the notion of a single dimension of teacher effectiveness, or a supremely effective teacher against whom all others might be measured, has generally been rejected by most researchers. However, at times it almost seems as though a conceptual and/or behavioral dimension has been substituted for the effectiveness criterion, such as the concept of Indirect/Direct teaching (Flanders, 1966). A number of investigations of teacher attitudes or belief structures have found that logically antithetical attitudes may not be responded to on the basis of a bipolar continuum, but may represent relatively independent dimensions extant to various degrees in the same teacher (Kerlinger, 1959; Wehling and Charters, 1969). In this study, clustering teachers according to their scores on a number of dimensions produced no 'pure'

groups, although two of the subgroups seemed highly related to the teacher-centered pupil-centered dichotomy. However, there was evidence for the existence of perhaps at least two other groups which could perhaps be seen as combinations of, and yet different from, the more familiar first two. Thus the dimensionality of teacher attitudes and practices may be somewhat more complex than is usually assumed. Furthermore, in respect to the possible effects on children of teachers varying along these dimensions, the findings of studies focusing on child rearing practices and socialization effects might well be relevant. For some time, investigators in this area focused on the consequences of restrictive vs. permissive parental methods; later, it was discovered that an affective 'warm-cold' dimension, orthogonal to the first, increased the clarity of the earlier studies (Hoffman and Hoffman, 1966). The same point might be useful in both conceptualizing and evaluating the results of teacher effectiveness research.

The theoretical construct of classroom social emotional climate has been defined and utilized in a number of ways, but is generally seen by educational researchers as one of several variables necessary to consider in order to understand classroom processes. Climate is usually assumed to be derived from the activities of the teacher, and most particularly from the teacher's propensity to engage in behaviors which are directive or indirect in respect to the children in the classroom (Flanders, 1966).

More theoretically, Getzels and Thelen see climate as mediating between individual personality and need variables, on the one hand, and institutional role expectations on the other, so that in a sense the classroom climate is a result of the match between role definitions and individual needs (1960). This is a somewhat expanded use of the concept, since climate is seen as being generated by a multiplicity of personal-social interactions. This is closer to the manner in which the construct is conceptualized in this study; more specifically, climate is defined as the total atmosphere produced by a variety of interpersonal and physical factors within a classroom, which a child experiences on a redundant and pervasive basis throughout the school year, and to which he is forced to make some sort of psychological adaptation.

Since the teacher's role definition gives her primary responsibility for arranging instructional experiences, and she is obviously a powerful figure in classrooms such as these, she is a primary force in generating the classroom climate. However, as mentioned previously, the children in her classroom, physical factors within the room, and external pressures also contribute to the final product. This study focused basically on the teacher's part in generating this atmosphere to which she, too, must make some sort of adaptation.

Although the teacher's behavior characteristics are often assumed to be prepotent in defining the classroom

climate, this would seem to be only a rough approximation toward eventual understanding of the phenomenon. A number of studies utilizing the concepts of Flanders and others have demonstrated some differences in pupil achievement or satisfaction with their classroom situation depending on their exposure to direct or indirect teaching (Flanders, 1969); however, these are statistically significant findings which obviously do not involve all the children in the classrooms studied, some of whom might even have faired more poorly under the indirect condition. Most educational researchers would now see this as a reasonable finding, and would point out the importance of matching the needs of the child and the task to the teacher's style, as does Soar (1967). This would be similar to the concept of a flexible teacher, able to radiate different types of learning environments depending on the needs of the children (Hunt and Joyce, 1967). This point could perhaps be taken a step further, in the sense that it could be argued that different children may perceive the same teaching style in different ways, so that one child might see a teacher's barrage of convergent questions as threatening and directive, while his neighbor might react with considerable comfort to this manner of structuring information and teacher requirements.

But knowledge of a child's characteristics and the ways in which his teacher behaves still does not necessarily lead to an adequate understanding of their interaction since other variables in addition to these two may influence the

development of the classroom climate as the child experiences it. The results of the grouping analysis in this study indicate different combinations of teacher behavior and attitude and personality characteristics, and it is certainly conceivable that the same teaching styles of two different teachers could be experienced by children in vastly different ways depending upon certain attitude or personality characteristics of the teachers. Obviously, a teacher may ask a convergent question in order to promote an opportunity to positively reinforce a child, or to denigrate him in front of his peers. Again, Soars makes the point that emotional climate and classroom structure appear to be two different dimensions in his data, which indicates that teachers might vary the directiveness of their teaching style for a different cognitive goal, but that it appears imperative that they maintain a warm social emotional supportive climate, or learning will not be enhanced by the appropriate shifting of teaching strategies (1971). Although this is an interesting finding on the data level, it seems somewhat artificial to make a distinction in this sense between structure and climate, since it is doubtful that the child holds this sort of dichotomy when immersed in a learning situation. Rather, the child probably experiences a teacher who directively asks many convergent questions in a warm and supportive manner as a total gestalt, and it is the character of this totality which will be instrumental in interacting with the child's idiosyncratic characteristics in determining

the psychological nature of his adaptation to a particular set of classroom experiences.

Soars presents some other interesting data which indicate that even in a classroom characterized as indirective and open, if the teacher occasionally feels the need to restore order in an intense fashion, this seems not only to wipe out the gains normally associated with such a learning situation, but to actually be counterproductive to the ability of many of the children to learn (1971). This might be similar to the well known ripple effect, when an intense disciplinary intervention effects the behavior of children other than the target, although the nature of these effects varies according to contingencies present within the teacher, the children, and the milieu (Kounin, 1969). The much earlier studies of Lippitt and White demonstrated that the leadership style in a group affected not only the members' satisfaction with their group, but also their involvement in tasks and the quality of the finished product (Lewin, Lippitt, and White, 1939). These varied studies all seem to indicate that the separation of classroom variables into those concerned with warmth may be arbitrary and possibly nonproductive. Indeed, some researchers in the field of child development feel that separation of the developing child into cognitive and affective spheres is not appropriate, and instead are directing their attention to the study of cognitive-affective interactions, or even toward

conceptualizing the two dimensions as parts of the same general process (Farnham-Diggory, 1968). The same point might be well taken in the development of ways of conceptualizing the classroom psychological environment which the child experiences in a school setting. Advocates of learning excellence or mental health goals in our educational system still sometimes act as if these two values were inimical; from the point of view being developed here, they would instead be indistinguishable.

Since school represents a planned learning experience, a more generic label for this concept might be that of 'instructional climate.' This is what the child must make some sort of psychological adaptation to, and will be an important determinant of the eventual quality and quantity of his learning experience. From the viewpoint of the teacher's contribution to this climate, it would seem necessary to consider at least three dimensions, or axes, which differentially interact and produce the eventual gestalt. The first would relate to specific teaching strategies assumed relevant to particular cognitive goals, e.g., asking convergent questions, modeling, using a discovery learning approach, etc. Included in this dimension would also be the teacher's own enthusiasm for learning, and her tendency to hold rigidly to one style or to flexibly adapt her strategies according to arising contingencies. The second would involve management strategies, the kinds of structure which the teacher decides to impose, how it is

imposed and communicated, and the degree of control which the children may have over this process. The third axis includes the teacher's tendency toward expression of warmth and concern for children, to be supportive, and to be interpersonally available. Although the teacher's decisions regarding these three dimensions can be seen as prepotent in generating the instructional climate, the initial characteristics and response tendencies of the children should interact with each in a predictable manner.

The group of teachers included in this study could, in general, be characterized with some clarity along these three dimensions. As a group, their instructional strategies tend to be directive and convergent to a considerable extent; initiations stemming from teachers outnumber those originating from students by a ratio of nearly ten to one, and the proportion of convergent to divergent questions was almost exactly the same ratio. They tended to be affectively positive and supportive toward their pupils, although it is interesting to note that nearly one-fourth of all affective teacher remarks were negative, and that these negative statements were generally quite belittling, and did not include direct management interventions. Furthermore, in considering all teacher statements, both initiations and responses, only about ten per cent could be classified as affective, i.e., intended to convey or encourage feelings, or to demonstrate concern or

availability; in this sense the classroom tone tended to be quite businesslike, although more supportive than not.

Behavior management episodes occurred on the average of one every ten minutes during the 60 hours of total observation included in the study. The directive intervention mode was used almost exclusively, in contrast to suggesting, distracting, or threatening. The majority of interventions resulted in conformity on the part of the Target Child; the interesting fact here was that nine times out of ten the intervening teacher ignored the child's conforming response. Most of these teachers seemed to demonstrate an either intuitive or academic awareness of the concept of reinforcement, and illustrated this in their consistent efforts to give feedback and praise when a child correctly answered a question. However, this awareness seldom seemed relevant to management situations, almost as though there was an unwritten assumption that a child who violated behavioral norms did not deserve to be rewarded for changing his behavior in the expected direction. This was one of the most consistent trends in the observational data, and there were only a few teachers who deviated from this pattern. The variance on nearly all the behavior dimensions was extensive, so that there was considerable variation from one classroom to another, although the majority of the classrooms studied would fit this particular pattern.

In the light of these findings, descriptive group data relating to attitude and personality variables presents some interesting consistencies and also puzzling incongruities. Semantic differential ratings on school relevant concepts were consistently positive on the evaluative dimension and neutral on potency, with the exception of ratings for the concept of problem children, which were consistently neutral in terms of evaluation and positive in terms of potency; the magnitude of these differences is generally considered to be significant (Osgood, Suci, and Tannenbaum, 1957). This difference did not hold for the teachers' ratings of specific Target Children on the Semantic Differential; there, the children were seen as slightly good, and neutral in terms of potency. It may be that the more generic concept, problem children, keys off feelings more indicative of a general set, which could be related to the teachers' tendency to not recognize conformity attempts in management situations. However, in rating Target Children, who had been singled out by the Project for special attention, and defined as different in terms of some possible handicapping condition, the ratings were more typical of those given other concepts, with the evaluation ranking higher than the potency dimension. This would also seem to indicate that the concept 'problem children' was responded to more in the light of discipline problems, and apparently had few mental health implications. This must be interpreted in the light

of the Project focus, which was specifically directed at mental health and learning variables in so called 'problem' children; there would seem to be some indication that the strategy of selecting Target Children assisted in helping the teachers to seek alternative explanations for the behavior of these children and the best ways in which to teach them, but did not generalize to the other children within their classrooms, whose problem behavior was still defined as obstreporous, a disciplinary problem, etc.

Another interesting descriptive finding related to educational attitudes, particularly as measured by the Teacher Practices Questionnaire. As far as preferences for the means which the teacher should utilize to reach certain goals, this group as a whole demonstrated an overwhelming preference for Discovery rather than Didactic strategies. It might have been predicted that the Inexperienced group would have scored higher on the Discovery dimension, still being under the influence of professors of education, and not yet exposed to the press for achievement and discipline more common to the public schools. However, only on the dimension relating to helping students to discover for themselves appropriate personal behavioral standards did the Inexperienced group tend to score somewhat higher; in terms of content presentation and the development of classroom rules, both groups consistently favored a discovery approach. The interesting point here is that their classroom teaching behavior hardly seemed congruent with these

expressed attitudes, but instead could only be characterized as didactic in nature, with a heavy emphasis on specific content learning. This was a rather consistent finding, and applied across many types of teaching situations, even those apparently designed to encourage curiosity and problem solving behavior in students. For example, during one observation session, the teacher was discussing the differential growth of some plants which were growing in different places around the room, some in the sun, in the shade, without water, etc. She began by structuring this information as a problem, and encouraged the children to generate hypotheses as to why some plants were doing better than others. However, when the children did not immediately come up with the correct explanations, she switched to a very didactic approach, using a lecture method and specific convergent questions to present the principles which were the goals for that particular lesson. This also resulted in an almost immediate decrease in student initiations, and was not an unusual occurrence for the twenty teachers involved in the study.

It could be, of course, that the Teacher Practices Questionnaire was measuring a general tendency of the teachers involved to present themselves to the Project staff in a favorable light. However, scores on the post test of this instrument were remarkably consistent with

those obtained in the beginning; the post test was given at the end of the Project, when the teachers were feeling more comfortable in this situation, and also were convinced that they would be receiving a high grade for their participation. Also, informal discussions and interviews with these teachers rather consistently indicated stated goals which were highly congruent with the situation responses making up the Discovery dimensions on the TPQ, and which were again quite inconsistent with their actual teaching behavior. Finally, the general impressions of the observer, although no doubt biased, pointed strongly toward a consistent didactic approach in not only subject matter presentation, but in the development and enforcement of rules for individual behavior and group norms. In only one classroom out of the ten included in the sample did the observer feel that a consistent effort was made to encourage children to engage themselves in the process of content and social learning; interestingly, on the clustering analysis, this one teacher out of all twenty formed a distinct subgroup by herself, and was quite deviant from group norms on many of the variables included in the study.

Scores on the Edwards Personal Preference Schedule were quite similar to the findings of others who have used this instrument on women teachers during recent years. High scores on Exhibitionism, Intraception, Dominance, Change, and Heterosexuality; low on Order, Abasement, Endurance, and Deference parallel those reported for women elementary

teachers by Eberline (1970). The Experienced group only differed significantly on the need for Order, which others have found related to age and years of teaching experience (Eberline, 1970; Jackson and Guba, 1957). Intraception and Dominance were both significantly related to some of the more important attitude dimensions, particularly the didactic approaches; these relationships were negative. Consistency was also negatively related to didactic attitudes, while Order was positively correlated with these approaches, and negatively related to rating the concepts of school, children, teachers, and mental health positively on the Evaluative dimension. It is interesting that Dominance is highly related to the teacher's expression of positive affect within the classroom setting, as well as negatively related to didactic attitudes. This need is defined by Edwards in terms of a desire for group leadership (Edwards, 1959), but its expression in a classroom setting apparently does not preclude the utilization of more democratic leadership styles; also, high scores on this need tended to go along with high needs for Intraception, a tendency to be reflective concerning the motives of oneself and others. This may somewhat modulate the expression of Dominance needs within educational settings.

Connotative aspects of the self, as measured by the Semantic Differential, were consistently higher on the Evaluative than Potency dimension, both for real and ideal self ratings. The tendency to rate oneself high on

the Evaluative dimension was significantly related to rating school, teachers, children, and mental health positively also, and was negatively related to the need for Order, positively to those for Dominance and Nurturance. However, rating the self high on the Potency dimension was positively related only to rating children as potent, and also to the teacher's expression of negative affect within the classroom setting. The Potency dimension in self ratings, and also in the attitude ratings, appears interesting although somewhat puzzling. Evaluative ratings are clearly related to positive feelings toward school related concepts, as are they to efficacious personality changes during psychotherapy (Endler, 1961), with little change in Potency ratings. Also, Semantic Differential ratings of Target Children in this study changed significantly in a positive direction during the duration of the Project, along with more positive perceptions as measured by the Behavior Rating Checklist; Potency ratings, however, did not shift at all. Furthermore, in the grouping analysis, self Potency ratings showed up as somewhat higher than the total group norm for the subgroup characterized by classroom behavior as being most didactic and directive, and were not associated with the expression of general positive affect and support toward students. Also, the juxtaposition of higher Potency than Evaluative ratings for the concept of problem children may be relevant in this context. In any case, there seems to be some evidence in this data that positive evaluative ratings of the self

appear related to positive feelings toward educational concepts, and also are associated with certain personality characteristics which, in this sample, relate to less directive, more supportive teaching behavior. At the same time, self Potency ratings above the neutral level are related to the expression of negative affect in the classroom, and are somewhat characteristic of those teachers who were more didactic and directive. Self Potency ratings are also related to a tendency to see the Target Children as relatively strong on the Semantic Differential.

The descriptive information discussed above indicates that there are some relationships between certain variables in the system, and that these relationships demonstrate at least a certain face validity. Furthermore, they are not always straightforward, but do indeed attain some clarity when considered in relation to variables from other components within the system. The results of the regression analyses lend some support to this interpretation, since utilizing each component instrument as a predictor for Teacher Behavior and Teacher Perceptions yields less predictive power than selecting predictors from different components; multiple dimensions yielded significant predictions on five out of eight behavior dimensions, and resulted in a higher multiple regression coefficient on the other three criteria. In predicting teacher perceptions of the Target Children, single dimension analyses resulted in significant predictions for three out of five criteria,

while multiple predictors predicted all five perception categories at or below the .05 significance level.

Regression analyses indicate that the personality and attitude variables utilized in this study appear more related to the expression of affect within the classroom, and to opportunities for students to initiate interchanges and to be actively engaged in learning. Although more directive and less supportive teaching behavior is characteristic of the majority of teachers in the sample, deviation from this mode is predicted by these variables with greater accuracy. For example, in this sample negative affect on the teacher's part makes up 23% of affective statements, but only a very small percentage of the teacher's total verbal behavior. However, there is a strong relationship between this variable and the didactic mode on the Teacher Practices Questionnaire and a high self rating on the Potency dimension; negative affect is negatively related to a high Evaluative self rating and to a strong need for Change. This is interesting information in itself, and also provides some indication of the interrelatedness of variables within the system, but beyond this becomes difficult to interpret in terms of cycling from one correlation to another.

The results of the clustering analysis, presented in Table 18 in the preceding chapter, present a somewhat different picture. Here, five somewhat different subgroups were arbitrarily examined in relation to those

variables most descriptive of each. Two of these subgroups appear relatively straightforward in relation to earlier research; the familiar teacher-centered vs. pupil-centered, or direct/indirect teacher behavior categories, the other two being somewhat more equivocal and, at first, difficult to interpret. This difficulty may partially stem from the traditionally unidimensional character of the more familiar subgroups; for describing patterns of teacher behavior similar to these, it is common to characterize them in a bivariate way, so that a teacher is either direct or indirect, even though numerous variables might be included in generating this placement. Therefore, subgroups like the last two in the cluster analysis appear strange or inexplicable, since they seem not to belong in either category. One way to resolve this problem might be to assume that direct-indirectness can be represented as a continuum, and that the two deviant groups lie somewhere in between.

Another way in which to conceptualize these clusters is represented in Figure 3 below, which utilizes the three behavioral axes discussed above as representing instructional climate in terms of the contribution of the teacher's behavior. In this figure, the horizontal axis represents a continuum labelled Directive-Enhancing, and refers to teaching strategies characteristic of these two extremes. A Directive strategy would focus on correct responses to convergent questions and a high degree of

procedural structure within the classroom; its intention would theoretically be to limit the child's learning options within the classroom setting, assuming that this will increase the probability that he will learn the desired set of responses. The Enhancing end of the continuum refers to divergent, problem structuring teaching strategies, and should be designed to increase the child's learning options within the classroom. No value judgement is intended to be expressed through the labels attached to either end of the continuum; it is assumed, however, that the two general strategies would be appropriate for the promotion of rather different educational goals, and must be judged within that context (Soar, 1970).

The vertical axis is labelled Restrictive-Supportive and refers to those teacher statements which are more clearly affective in intent. Included within this dimension would be the ratio of positive to negative statements, as well as tendencies to positively reinforce, clarify, and express concern. The restrictive end is again seen as restricting the child's options, but not in terms of structuring information or contolling through procedural directions, but in terms of the affective feedback he receives about himself and how he can interpret this, particularly in terms of the development of expectations.

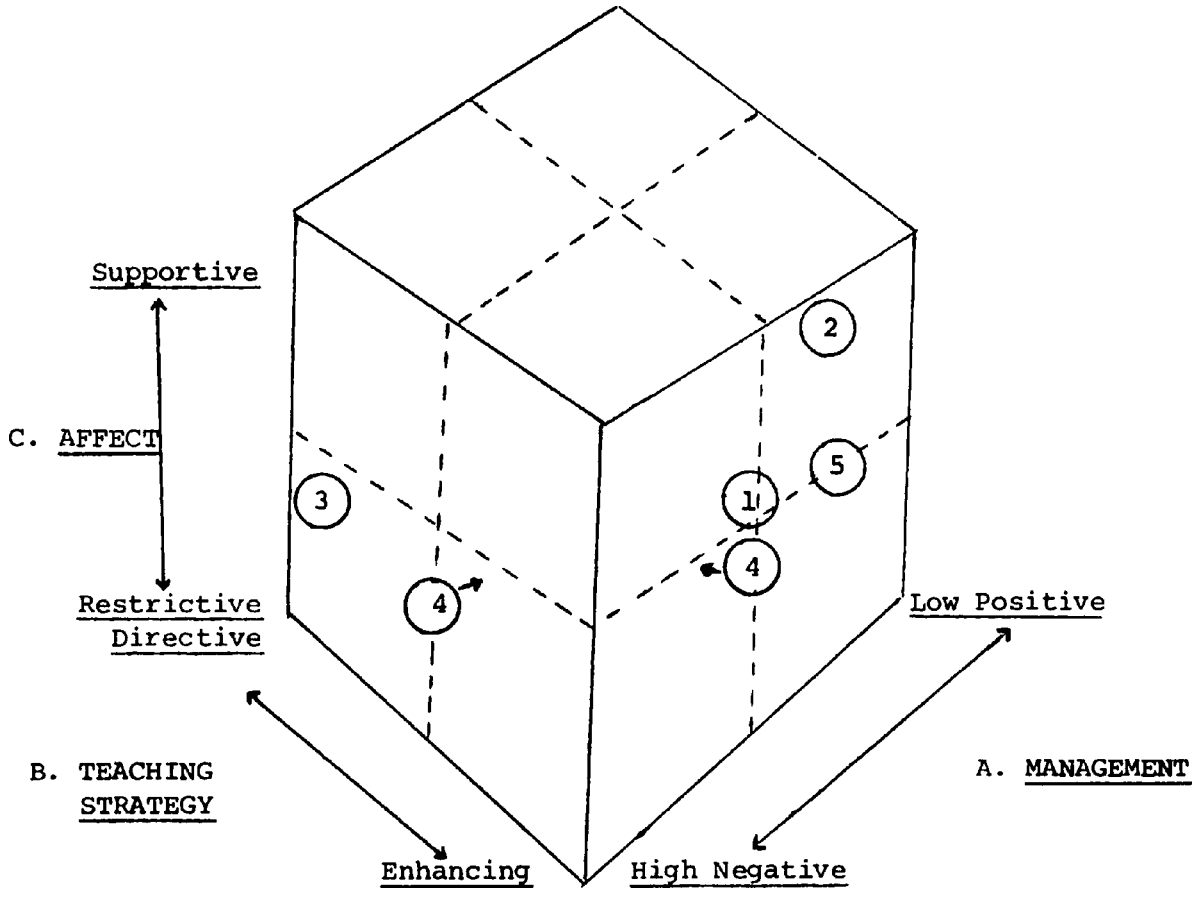
The third dimension, running from front to back of the cube, represents the teacher's behavior management, both in terms of her strategies and the frequency of such

interventions. The High-Negative end of the continuum also represents a restriction of options, although not in the sense of procedural requirements, such as lining up to leave the room or only using one color of paint at a time. Instead, this axis represents those times when a teacher moves beyond procedural management and initiates a focused intervention demanding, within a more compelling context, a change from disobediance to compliance. It is assumed that these interventions are potent learning situations, both for the focus child and his peers.

The interactional quality of the subgroups may now be pictured in a general manner by placing them within the cube pictured in Figure 3, in relation to their approximate position along each of the three axes. The circled numbers denote the subgroup designation in Table 18, groups one through five. Their position is general, both in relation to each other and to the three behavioral dimensions.

It now becomes apparent that subgroups such as these may be thought of as representing a certain style of teacher behavior, which varies along at least three dimensions, and also has certain internal variations due to characteristic differences in personality and attitude variables. Placement in respect to these three dimensions in actuality denotes a kind of frozen section of a teacher's behavior, in this case analogous to taking a motion picture of teaching, and stopping it at some representative point, the still picture in that frame then being

FIGURE 3.--Representation of Teaching Style Behaviors Along Three Dimensions



assumed characteristic of that teacher. In the present study, this frame is actually a generalization of many different teaching situations, generated by taking mean scores across situations and settings. In reality, placement within Figure 3 would be better represented by some sort of common range of behaviors, which would vary within certain parameters along each of the three dimensions. However, it is important to recall that the purpose of the present study was to consider general relationships assumed to be

important in generating instructional climate; establishing parameters of variation, and then perhaps relating these to proximal or distal criteria of pupil growth, would involve another set of studies.

Thus, Figure 3 would characterize Group 2 teachers as offering considerable affective support and encouragement; utilizing teaching strategies tending to encourage problem solving and process oriented learning, and engaging in somewhat fewer and more benign management episodes. Extension of this pattern would be seen as resulting in a maximization of the learning options available for a child within that classroom setting. Whether any particular child can psychologically avail himself of these options is, of course, another question. This teacher behavioral pattern is also associated, relative to the total group, with a low rating for attitudes expressive of a didactic approach, particularly in regard to content delivery, a somewhat high Evaluative rating of the self, and a stronger need for Intraception.

Group 3 is almost the obverse of this; these teachers generally demonstrate a high degree of control through their teaching strategies, being quite directive in structuring, monitoring, and responding to learning situations. At the same time, their tendency to be affectively supportive and encouraging is relatively low in regard to the entire group; also, they tend to engage in a significantly greater number of management acts. Their expression of negative affect is

higher by more than one standard deviation when compared to the total group. Extrapolation of this pattern would seem to indicate a reduction of learning options available to the child within these classroom settings, in relation to academic, social, or self kinds of learnings. This behavioral pattern is associated with a favorable attitude set toward didactic teaching methods, particularly in the content area, and a somewhat positive evaluation of teachers and school. Their need for Affiliation is somewhat more salient than that of the total group, while the need for Intraception is somewhat lower. The self Potency rating also tends to be somewhat elevated when compared to the total group, which is consistent with other relationships discussed above in terms of the total sample.

Subgroup 4 can perhaps best be characterized as comparatively inactive in their teaching behavior; the number of total teaching acts emitted by these teachers is more than one standard deviation below the mean for the entire group. Within the framework of this generally lowered activity level, they are about average for the total group on the directive-enhancing and restrictive-supportive dimensions. The ratio of their management acts to total teaching behavior is somewhat higher than that for other groups, and slightly above the mean toward the high/negative end of that dimension. This small group also rated themselves lower on both the Evaluative and Potency self dimensions than the total group, and rated the

Evaluative aspects of school, teachers, and mental health more than one standard deviation below the group mean. They indicated a somewhat less intense need for Intraception than their peers in the Project. In spite of their generally low evaluation of school related concepts, they tended to prefer the didactic approach as measured by the Teacher Practices Questionnaire, both for content and the development of social norms. Perhaps best characterized by low activity, less positive evaluations of school, but some rather traditional attitudes, this group may be more in search of a style and ideology than the others, or it just may be characteristic of teachers with lower activity levels, which might be largely a personality or temperament function.

Group 5 is somewhat more enhancing and lower on the directive dimension; average to slightly below the mean for affective support, and comparatively low on frequency of management interventions. In this group, the pattern is closely associated with the highest level of student initiations of the entire sample of classrooms, nearly one and one-half standard deviations above the total group mean. They express a somewhat more intense need for Intraception and Change, and a lower need for Affiliation. In this subgroup, then, less directing, average support, and low management seem to encourage a higher degree of student participation. In this connection, it is interesting to note that the five teachers in

this subgroup represent five different classrooms, i.e., none of them were paired together. Some of them, however, were paired with teachers whose behavior was associated with very low levels of pupil initiation. Therefore, it would seem that this finding is due more to the instructional climate generated by this last subgroup, rather than by the characteristics of the children with whom they were working.

When evaluating these results, it is important to keep in mind the same distinction which was made earlier in discussing the results of studies utilizing Interaction Analysis as an observation instrument. Even though behavioral categories vary considerably from one classroom, or even one teacher, to another, there are no cases where the majority of teacher behaviors are not primarily directive, or where pupil initiations become anywhere near a substantial percentage of total initiation. Thus, while the variation between subgroups is sometimes significant, and seems to indicate certain trends which should be meaningful and deserve further investigation, the figures describing classroom behavior in Tables 29, 30, and 31 in Chapter Four are reasonably descriptive of the classrooms involved in this study, and probably of the majority of primary classrooms in public school systems (Hunter, 1969). Thus, placement along the dimensions in Figure 3 is relative to the present group as a whole, and does not represent the theoretical extension of these dimensions over

their total range. However, as a number of studies have demonstrated during the past ten years (Flanders, 1969; Amidon and Hough, 1967), these relatively small differences are apparently related to increased learning and school satisfaction in at least some children, and should be followed up.

It would seem reasonable to assume that each of these four subgroups, in interaction with particular characteristics of children and cultural press, would generate somewhat different instructional climates. Each of these, in turn, would have different implications for the various children embedded within them. Two of these would seem particularly important: the psychological and behavioral adaptation which every child is required to make in relation to this pervasive climate, and the number of alternatives left open in the child's learning field, using this latter phrase in both a broad and specific sense. These implications include a consideration of the number and arrangement of different aspects within the learning environment calculated to optimally fit a given child's learning style.

Thus, it could be tentatively concluded that certain categories of teacher behavior, along with particular psychological characteristics of teachers, fall together into some as yet undetermined number of subgroups which are assumed to be important in generating the more general construct of instructional climate. Five such groups were

rather arbitrarily formed and examined through this study; at least two of them seem rather clear cut. A consideration of the variables involved in these clusters would seem to indicate that utilizing one dimension, or label, and hence one set of measuring instruments, is perhaps overly simplistic and not particularly descriptive of the complexities involved in classroom transactions. The fact that variables from different components fell together within these subgroups in a manner that at least suggests some face validity should be encouraging in terms of the notion of a system which generates instructional climate through its functioning. This is not to imply that all aspects or components of the system have been tapped, or even that those utilized have been measured with enough accuracy to estimate the direction and intensity of their relationship to the system, but that this data lends some credence to the concepts involved. The relevance of this approach to the development of a theory of instruction should be obvious; investigators have found that just amassing large amounts of classroom behavioral description does not necessarily lead to theory development. On the other hand, boiling all of this information down into one dichotomous category may yield statistically significant predictive results when applied to some pupil change criteria, but leaves large portions of the variance unexplained and cannot really be applied to the design of classroom situations other

than on a fairly gross level. The present approach is perhaps in between these two extremes, and in a sense could be seen as an attempt at model building. If such a model could be fully developed, to the point of demonstrating a certain level of construct validity, it could then perhaps be applied or synthesized with other models, such as of the learning process, in order to move toward more comprehensive theory development.

Given that there is some evidence of a system variably dependent upon the relationships between its components, what of the particular components included in this study? The three central components appear to be of personality, attitude structure, and the teachers' behavior. There are 33 correlations between personality and attitude variables, nearly twice the number expected by chance at the .05 level, most of these between the Semantic Differential, TPQ, and Edwards Personal Preference Schedule. Also, there are numerous relationships between personality variables and teacher behavior categories, and between attitudes and behavior. There are more relationships between attitude structure and teacher perceptions, and attitudes and child behavior, than would be expected by chance. However, in general the system components of teacher perceptions and child behavior (as measured by CASES) do not seem to be interrelated within the system to the same extent as the first three components and, except on a descriptive level, are

difficult to interpret. One conclusion might be that these components are not important in generating the system, or are related in some manner different from that hypothesized. A more satisfactory interpretation, however, might consider the nature of this data, and the way it was collected in distinction to that representative of the personality, attitude, and teacher behavior components.

The data collected on Target Child behavior by the CASES system seemed reliable for the situations observed, but it is not as representative of different situations as that collected for teacher behavior. As mentioned previously, a major problem in collecting observations on these children was absence from school; since the observation schedule was set up on a tight basis, it was seldom possible to change it in response to the shifting vagaries of measles and chicken pox epidemics, to which the Target Children seemed particularly susceptible. Therefore, it was not possible to collect as great a range and amount of observational data on these children as had been anticipated.

The data gathered for the teachers' perceptions of the Target Children also seemed reliable, and on a descriptive level were interesting in terms of the consistent modulation of the teachers' perceptions of these children toward an increasingly benign response. However, this change seemed tied fairly specifically to the Target Children, and is perhaps understandable in terms of the Project's overt focus. It will be recalled that this shift did not

occur for the general concept, 'Problem Children.' Indeed, the teacher's rating on this more general attitude was more closely related to personality and attitudinal variables than were the Perception variables. It would be interesting and perhaps enlightening to have measured the same attitudes again during the following school year but, at least within the parameters of this study, little generalization seemed to occur for the group as a whole. Therefore, it is perhaps understandable that more general variables such as personality and attitudinal factors would be more important within the entire classroom system than specific Target Children perceptions. It is also interesting that there are few significant relationships between the teachers' perceptions of the Target Children and the CASES observations of these same children, although this may be more related to the difficulties involved in obtaining adequate behavioral samples of these children for observations across learning situations and times.

Thus the correlational and regression analyses provide some support for the notions of an interrelated classroom system, although the relationship between certain components is tenuous at best. In general, the number and magnitude of the correlations reported are somewhat disappointing, although it has been shown that certain of the variables from the components of Personality and attitudes, when analyzed together, have considerable predictive power for some behavioral categories, at least within the

constraints of this sample. These results, along with those from the grouping analysis, would seem to justify the utilization of a more differentiated concept of the classroom system in further research, and there are a number of interesting clues in these data suggestive of the kinds of instruments and strategies of data collection optimal for a more refined study. In terms of the goals of an essentially descriptive study, the results would seem heuristic relative to the presence of some encouragement for continuing to pursue the model, with somewhat more highly specified operational definitions of the components involved, and corresponding changes in instrumentation, in order to reduce the number of variables and sharpen their relationships within the system.

Implications

There would seem to be some interesting implications in these results for both practice and research. There has recently been a good deal of interest in the utilization of teacher observation systems such as Interaction Analysis as a training strategy for giving feedback to teachers (Amidon and Flanders, 1963). There are also several studies of the training process which indicate the importance of providing feedback and assisting in interpretation or clarification (Peck and Tucker, In Press). Certainly one of the more straightforward findings of this study indicates the tendency for these teachers to behave in a manner inconsistent with their stated goals and

educational attitudes. Therefore, in both preservice and inservice training the question of feedback would seem crucial. However, the complexity of classroom interaction which emerges from these data and others would seem to mitigate against the selection of one dimension, such as direct/indirect teaching behavior, for such focal attention. Beyond this, it may be important to consider ways in which teachers can be productively reflective about their teaching behavior, and about the relationship between feedback which they may receive and their teaching goals. Furthermore, encouraging teachers to change their teaching behavior consistently along one dimension seems overly simplistic; the differential relationships between teaching styles and different learning goals already discussed (Soar, 1970), would seem to imply that assistance to teachers in articulating the relationships between various goals and behavioral patterns or strategies might be called for, rather than just providing feedback.

A training intervention could be conceptualized in an even more complex manner if the different clusters of psychological and behavioral characteristics which emerged in this study are considered. For example, a teacher who holds strong didactic attitudes toward educational goals and strategies, and behaves in a directive manner, would seem to need a different sort of inservice experience than one whose behavior was inconsistent with her attitude or belief structure. In the same manner, a teacher who was

quite directive and also highly supportive in a classroom would seem to present a considerably different challenge to a change agent than one who was directive and quite nonsupportive, or directive and highly negative in her management approach. At the same time, proximal goals for behavior change resulting from a training experience might be dissimilar for these teachers, and one would also expect that their ability to utilize feedback concerning different aspects of their classroom behavior would also be differential, and would call for a variety of kinds and degrees of support.

Another implication involving the concept of multidimensional teacher behavior and attributes relates to consultation efforts directed at the modification of certain aspects of instructional climate in order to obtain a better fit between the needs of a disturbing child and the classroom environment. Here again, one aspect of teacher behavior, or one behavioral axis, might prove preemptive in allowing a child to function comfortably within a classroom setting, for example focusing initially on changing the level of supportive behavior, or management approach, or becoming somewhat less directive but more supportive, etc. Also, the level of congruence between educational attitudes and goals and resulting classroom behavior would again seem important determinants for the consultant's strategies: e.g., for teachers with one kind of attitude a focus on expansion of behavioral alternatives might prove most

effective, while for others an initial concentration on changing the teacher's perception of the child might be preferable.

Implications for further research can be subdivided into two general sets: methodology and theoretical conceptualizations, both of which represent important current issues (Gage, 1967; Mitchell, 1970). Primary issues which will be considered in this section relate to observational strategies and systems, instrumentation for gaining information concerning psychological characteristics of teachers, and alternative conceptualizations of the teaching learning process.

The modification of the OScAR 4V utilized in this study seemed satisfactory in several ways and produced some of the most interesting data. In its modified form it obtains information relevant to all three axes of teacher behavior specified above, although directive aspects receive perhaps the greatest emphasis. This problem has been considered by others, and one seemingly useful solution has been the development of parallel observation systems which can be coded at the same time, one perhaps focusing on directiveness of teacher strategies, while the other codes various management interventions (Soar, 1970). However, consideration of the three behavioral teaching dimensions proposed here, and the nature of ongoing teaching behavior within a classroom setting, reveals a possible conceptual problem relating to the common assumption of mutually

exclusive categories in observation systems. For example, a teacher's convergent question might well be considered a teaching strategy, an expression of affect, or a management intervention, depending on the context in which it is embedded. In the classrooms included in the present study, it was not unusual for a teacher to divert a child's attention from talking to his neighbor to paying attention to a group lesson by interrupting her discourse and asking a convergent question; this was sometimes done in a supportive and concerned manner, while at other times it seemed obviously hostile, as though the teacher knew in advance that the child would not be able to respond correctly, and was using the situation as an attempt to denigrate the child, or even hold him up as a negative example for the other children. In using the OScAR, and most other coding systems, a decision would have to be made between one of these three options, no one of which would accurately reflect the child's probable perception of the situation. The OScAR is perhaps somewhat more flexible in this particular regard, since on hearing a convergent question the coder would hold his decision until the child responds, and the teacher reacts to this response in terms of support, criticism, ignoring, etc. However, this does not take into account management ploys; also, for many other categories the options are considerably restricted in this sense. Another example would be procedural statements on the teacher's part, which often contain affectively negative or

supportive messages, or may also be management interventions, but which would probably be coded as a procedural statement. Again, the assumption is that most teacher statements are somehow 'pure' in their intent, and that it is therefore appropriate to develop categories and systems which claim exhaustiveness and mutual exclusiveness as their goals. It is conceivable that this assumption, in the present study operating through the OScAR system, was responsible for some dilution of the results obtained, particularly relationships between behavioral categories and psychological variables, to some unknown, but possibly significant, extent.

Thus it might be productive, in future studies, to code all statements along at least two dimensions: direct-indirect and supportive-restrictive. At the same time, all statements containing management implications could also be coded along that dimension. Then some sort of summed or average scores could be derived which, for any single statement, would functionally be the equivalent of placing a subgroup, on the basis of mean standard scores, within the three dimensional matrix in Figure 3. This would obviously necessitate the development of some new coding systems or categories, and the support dimension might be particularly difficult to operationalize. However, the payoff to be derived from finessing these arbitrary distinctions, particularly that between the cognitive and affective domain, might well compensate for the increased effort.

Another issue involves the common practice of treating the classroom group as a unit in most observation systems, which in effect assumes that the impact of particular teacher statements is unitary (Yamamoto, 1967). A recent observation scheme developed for the analysis of dyadic teacher-student interactions apparently demonstrates that teachers do behave differently toward different children, depending on their expectations for these students (Good and Brophy, 1969). The extent of variation among teachers in their tendency to behave toward children in different ways, not necessarily intended to enhance individual differences, is apparently unknown. If such variation is indeed present between teachers, it would be interesting to assess in terms of clusters of certain behavioral and psychological characteristics of teachers, such as those reported in this study; the next step involving the identification of those pupil characteristics most likely to stimulate discriminatory behavior on the part of the teacher.

Finally, in further observational studies directed toward the concept of instructional climate, it would seem wise to gather somewhat more extensive observational data on children in the classroom. In the present study, it was assumed that the Project focus on the Target Children would tend to highlight system processes in relation to these children, which was the rationale for concentrating observations on them exclusively. However, this assumption now

appears faulty in light of the evidence, which seems to indicate that the teachers' perceptions of these children changed, but not toward other children in their classrooms; however, the behavior of the teachers which was coded was directed at all children in their classrooms. Therefore, it would be important to collect data on all children within the class, but not analyze it as group data. Rather, subgroups of children might be formed through some clustering technique, which could then be compared to teacher subgroup characteristics. At the same time, it would seem important to gather some information relevant to classroom and self perceptions of the children involved, which could be related to their own behavior, and then through a chain to the behavior and perceptions of the teachers.

The above comments generally relate to strategies for conducting studies related to the concept of instructional climate. This study began with several assumptions relevant to the notion of a classroom system consisting of both behavioral and psychological variables, and its summation in an expanded construct which has been labelled instructional climate. On the basis of the results, which were admittedly tenuous, some highly tentative conclusions regarding systems and climate were suggested. From the writer's biased viewpoint, the most important research implication of this study would hopefully lead to more rigorous testing of these tentative conclusions, taking

into account the several limitations and methodological implications discussed above. If it could be more rigorously established that teachers can be divided into a certain number of subgroups on the basis of their psychological and behavioral characteristics, then one could test the assumption that these different subgroups would in turn contribute toward the generation of different instructional climates as experienced by children. If the parameters of these differences could be established in some fashion, then one could turn to the important question of the manner in which they are generated, adding to the variables already used the effects of different kinds of children, the institutional press emanating from principals, other teachers, and eventually the community. This stage in the process would also seem ideally suited to the field study approach, or "classroom microethnography," advocated by Smith and Geoffrey (1968, p 249). The final stage would then involve the relatedness of instructional climates to various proximal pupil change criteria, involving both the acquisition of skills and concepts and the learner's ability to maintain internal feelings of competency related to their productive utilization (Smith, 1967).

After reviewing the literature relating to situational influences on the behavior of individuals, Julian Rotter makes the statement that " . . . psychological climate is like the weather; everyone talks about it,

but no one does anything about it (1955, p 246)." Without intending to glorify the pun, the concept seems compelling in relation to research concerning teacher effectiveness. Person environment interactions are complex in the abstract; when they are considered within the flux of a group educational situation containing sets of institutionalized values and expectations, designed to bring about some kinds of productive changes within learners, this complexity can become nearly overwhelming. However, real understanding would not seem to stem from oversimplication in response to complexity, but in continuing sharpening of conceptualizations through the collection of more specific descriptive data and the testing of more specific hypotheses. The intent of the present study was to engage in this process by considering a certain portion of this complexity through the use of presently available instruments, and to attempt to see if some sense could be made of the data with the assistance of a rough sort of paradigm. The answer to this very general question is unfortunately not yes, but the results do not necessarily indicate that it was the question and its inherent assumptions that were necessarily wrong, and they offer at least some encouragement to the development of data gathering devices more operationally and theoretically related to the assumptions in order to ask the question again.

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A P P E N D I X A

INSTRUMENTS USED FOR ASSESSING TEACHER SELF FEELINGS AND ATTITUDES

Semantic Differential
Teacher-Practices Questionnaire
Teacher Opinionnaire

Please make no marks on this booklet

TEACHER PRACTICES QUESTIONNAIRE

FORM 4C - April, 1965

Garth Sorenson and Cecily Gross

School of Education
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Directions

Following are thirty problem situations typical of those that are often encountered by teachers in school districts with large and heterogeneous populations. The problems are identified by Roman numerals (I to XXX). Following each problem are four possible courses of action. The courses of action are numbered consecutively from 1 to 120 to conform to the numbering on the answer sheet.

Note that the columns to be marked on the answer sheet are numbered across from 1 to 5. Decide how appropriate you feel each course of action is, and then rate it as follows:

If it is very appropriate, mark column A.

If it is fairly appropriate, mark column B.

If you are undecided, mark column C.

If it is fairly inappropriate, mark column D.

If it is very inappropriate, mark column E.

Remember to rate each of the 120 courses of action independently.

I. A tenth-grade student whose work has been generally good begins to do more and more unsatisfactorily. He rarely has a word to exchange in the corridors or lunch room even with the students who used to be his friends. You have been informed that his parents are on the verge of a divorce.

1. Warn him that he must improve his work if he is to pass his courses.

2. Make an effort to get him involved in school activities and special interest clubs in order to increase his social contact with other youngsters.

3. Make a point of increasing the amount and frequency of your praise and attention whenever his work comes near its former level.

4. Guide the boy in an analysis of his situation to find the reasons for his poor grades and encourage him to invent his own remedial action.

II. An eleventh-grade student confides that she intends to elope next month during the spring recess with a boy of whom her parents disapprove.

5. Discuss with her her ideas about the responsibilities of wives in our society and whether she feels willing and prepared to meet them.

6. Try to show her that at her age there is nothing more important than her education and intellectual development.

7. Provide an opportunity for her to talk about her feelings and her reasons for wanting to take this step.

8. Examine with her the expectations she has of marriage to see whether the changes and satisfactions she anticipates are realistic.

III. A high school junior is uncertain about his plans for next year. He likes his industrial arts courses best but gets good grades in all subjects. He believes that it will be financially profitable to be an engineer; however, he is also strongly interested in English. He has a flair for language and wonders whether he might not enjoy free lance writing.

10. Advise him that since engineers as well as writers need to have a mastery of language and ideas, he ought to concentrate on his academic work.

11. See that he gets information about pay-scales, opportunities for placement, and advancement in both professions, and let him choose for himself.

12. Capitalize on his vocational indecision to interest him in additional courses in both engineering and journalism.

IV. Jaunita has just arrived from Mexico. Spanish is spoken in the home, and her English is limited. She is eight years old and has been placed in the third grade where she simply sits. She rebuffs attempts at friendliness by other children. When asked to do something, she will either sit still with her head down or whisper, "No understand. No speak English."

13. Design specific assignments to teach her English and have her complete them during class hours.

14. With the help of someone who speaks Spanish, bring her into the group by explaining what school is like in the United States and urge her to share information about her culture with the other children.

15. Be especially warm and friendly to show her that she is welcome and that you understand her feelings.

16. Let her know that children must make an effort to do what is expected of them and that she will have to go to the 1st grade if she will not at least try to catch up.

V. A foreign exchange student will be graduating from college in the United States in two months. According to the agreement she made with her government, she should return to her own country when her course work is completed. She informs you that she is deeply troubled about the fact that she wants to stay in the United States where she can enjoy a higher standard of living and where she can be independent.

17. Remind her that she has a responsibility to her own country, that she has certain obligations to fulfill.

18. Tell her that she needs to clarify for herself whether rebellious feelings against her parents may not be the reason why she does not want to go home.

19. Remind her that knowledge is a trust which ought to be passed on to those who have not had her opportunities.

20. Encourage her to discuss all aspects of her conflict, and to weight for each course what would happen to her and how she would feel about it.

VI. Milly, a bright but mediocre student, is the daughter of wealthy parents. She rarely participates in any of the school social functions. When asked to attend the annual school picnic, she states, "Just about any and everyone goes. My parents don't care for me to associte with that kind of people. They say I should stick to our sets."

21. Devote class time to discussion of what people of differing backgrounds have to contribute to one another.

22. Work with her on her study skills; her values are the responsibility of the home.

23. Find out what friends she would like to have and suggest things she might do in order to develop more satisfying relations with others.

24. Try to discover if insecurity is the root of Milly's behavior.

VII. When Jim, an eleventh-grade student, is not chatting with his neighbors in class, he is passing notes. He often interrupts the lecture or discussion to offer his point of view, get up to get a book, sharpen a pencil, open a window, etc. His work is unsatisfactory.

25. Make him library monitor, a prestige position, and let him know he can keep the job as long as his school work is satisfactory.

26. Keep him after school when he misbehaves and tell him that he must learn some self-control.

27. Explore with him how he sees his actions, what his behaviors mean to him, and what he can do to find more satisfaction in school.

28. Tell him that you know he is in school to learn and that he will be able to learn more if he will only pay attention.

VIII. David, IQ of 140, enrolls in as many "snap" courses as possible in high school and receives B's and C's with little effort. He tells his schoolmates, "Get wise. Don't kill yourself with homework. The school will have to graduate you when you are of age anyway."

29. Let him know that you are very disappointed in him and tell him that a boy like him should be a good example to the others.

30. Use vocational interest inventories and interviews to see if he has some special interest by means of which you can get him to take some steps toward a serious goal.

31. Find out whether his views express the ideas of the crowd he pals with and try to modify his attitudes by group discussions.

32. Remind him of the vast amount there is to be known and tell him that intelligence like his should not be wasted.

IX. During the past few weeks, the fourth-graders have complained about losing pencils and having small personal possessions broken. Martha, an already unpopular child, is discovered to be the culprit. She comes from a middle-class family and is provided with more spending money than the average student.

33. Advise Martha's parents that their child is in need of more love and attention from them and that providing her generously with material possessions is obviously not enough.

34. Guide the class in a discussion of some of the reasons why people sometimes do things that are not right and what boys and girls can do to help one another change.

35. Tell Martha that she must stop stealing because people won't like her and trust her if she continues.

36. Since this is not a matter of school work, let someone other than the teacher handle it.

X. In fourth-grade spelling class, Mary volunteers to spell "Mississippi" but is mistaken. You correct her, and she becomes sullen. Later she is called on to spell "acrobat." Again she is mistaken, and you correct her. She scowls, pouts, and mumbles under her breath that she is always being picked on and wants to be left alone. Whenever she acts this way, the other pupils snicker.

37. Tell her that you treat all children alike and that she must stop that behavior immediately.

38. Ask Mary's mother to drill her on her spelling list so that she won't slow down your efforts to work with the more capable children.

39. Set up a small remedial spelling group in which the children can work together in drilling and correcting one another.

40. Let her choose the spelling words she is to learn and try to call on her to spell only those words she has practiced.

XI. From childhood, John has been taking piano lessons and has continued on into high school despite a heavy schedule concentrated on science. His records indicate an IQ of 135 and practically a straight "A" average. John has been auditioned by a noted piano teacher who believes him to be a very talented and promising musician. His mother likes the idea, but his father thinks a music career is both effeminate and impractical. John is undecided.

41. Discuss the matter with John and his parents together so that all views can be expressed and John can get experience in arriving at a joint decision.

42. Find out to what extent his parents' disagreement is putting emotional pressure on John.

43. Urge John to continue to broaden his intellectual growth in both school and musical studies rather than to narrow down too soon.

44. Consider with John the pros and cons of both alternatives in terms of his own future satisfactions and plan with him the steps he can take toward his goal.

XII. Harry uses foul language frequently and seems to enjoy shocking both students and teachers. His hair is long and oily, and his shirts are loud. His trousers are tight and worn low on his hips. The girls complain that he is both "fresh" and vulgar.

45. Ask one of the men on the faculty, perhaps the football coach, to go out of his way to be friendly, in the hopes that Harry will respond and try to become more like him.

46. Point out to Harry that vulgarity indicates a limitation in both vocabulary and intelligence.

47. Compliment him whenever he uses correct language; ignore his behavior and appearance as long as they don't interfere with the schoolwork.

48. Warn him that unless his language and his general behavior improve, he may be suspended.

XIII. Michael is thirteen. His parents, itinerant farm laborers, have been forced by juvenile authorities to keep him in school. He seems to be placed properly in terms of ability; but when assignments are given, Michael is often heard to complain, "Not that again!" He will also lay his head on the table although he does get enough sleep and rest. It is not uncommon to find "doodling" on his papers and to observe other signs of boredom.

49. Explain to him that something interesting lies waiting to be found in every assignment if he will only look for it.

50. Investigate the home situation to find out whether parental indifference to school achievement is creating conflict within Michael or is in some way hindering the youngster's progress.

51. Study Michael's existing interests to find incentives which you can use to get him to participate in learning activities.

52. Try to make him feel more a part of the school by assigning the class a cooperative project in which he will be working closely with other students.

XIV. Jane, a third-grader, has marked her table with crayons several times. Each time she was reprimanded and asked to erase the marks. Today she has put pencil marks in a library book.

53. Watch for the kind of situations in which this behavior occurs so that you can head off precipitating events, e.g., those that either bore or frustrate her.

54. Suspend Jane's library privileges for a week and have her erase the marks in her books as well as other library books.

55. Explore her feelings and try to find out the underlying cause of her hostile behavior.

56. Involve the class in a discussion of the importance of rules that benefit the group.

XV. A high school senior tells you that he will be applying for admission to a pre-medical course. His parents are very pleased with his choice of career. They will take care of all his expenses even though it will mean tightening of the family budget which is already quite limited. When reminded of the sacrifices his parents and sisters will have to make, he says, "Oh well, I'm their only son." You know that his verbal ability is only average and that he has a "C" average in his science courses.

57. Let him know you are concerned about his possible disappointment, and then investigate the motives behind his choice.

58. Discuss with him the significance of his record to date and the occupations relating to medicine which may be good bets for him in the event he can't get into a pre-medical program.

59. Discuss with him at greater length the question of his responsibility to the others in his family and what decision would be to the best interest of all.

60. Examine his knowledge of basic concepts in science in order to identify the difficulties he is finding and to improve his performance.

XVI. When Clara accidentally stepped on Betty's toe, Betty turned on Clara shouting, "You are stupid and ugly," and burst into uncontrollable sobs. Later that day, Betty beat on the table with her fists when she was not permitted to get a drink of water during class time. She is known frequently to throw tantrums when crossed.

61. Assure Betty that concentrating on her school work instead of on her grievances will give her the satisfaction of doing well.

62. Give special recognition to Betty when she is able to hold back a remark when provoked or when she is able to maintain control when crossed.

63. Tell Betty that if she can't control herself she will have to go to the office.

64. Whenever a potential outburst threatens to get in the way of learning, shift Betty to a new and diverting task.

XVII. Almost every day Stephen, a seventh-grader, asks his classmates, "Guess what I did today?"and proceeds to relate his latest escapade: he did not do his homework; he cut the branches from a tree in the school yard; he talked back to the English teacher, etc.

65. Plan with Stephen ways of getting the admiration of his friends that won't get him into trouble with adults.

66. Conduct occasional class discussions in which Stephen and the other children are encouraged freely to express their attitudes toward class rules and routines and to take part in shaping the regulations.

67. Talk with Stephen and let him know you understand the anger and loneliness he must be feeling.

68. Move him to a seat away from the others when he misbehaves and make certain that he understands why.

XVIII. Richard is brighter than the average student. He is eager to enter the building trades with a view of becoming a big time contractor. He boasts of his plans to use judicious bribes to the appropriate person to help him along. On the other hand, though he resents having to take academic subjects, he is somewhat interested in college because he feels you have to have a college degree in order to get ahead these days.

69. Advise him that a boy of his ability should be aiming for college in order to become an educated person and not just to get ahead.

70. In class or in conference with Richard alone, discuss questions of public morality vs. private gain, and citizen responsibility for the corruption of government officials.

71. Observe Richard to learn why he is so antagonistic to meeting course requirements and what is the source of his driving ambition.

72. Capitalize on Richard's ambitions by devising methods of presenting class materials related to the fields of construction and contracting.

XIX. Jerry usually arrives at school early but he keeps apart from the other students. Seldom is he seen conversing with anyone. Although his written work is first-rate he does not participate in group discussions nor does he volunteer to answer questions in class. Whenever the class divides into committees, he is last to be chosen.

73. Encourage more active participation on Jerry's part by praising students who contribute to the cooperative efforts of the group.

74. Grade him on the basis of his written work since it shows what he really knows.

75. Plan with Jerry a series of small steps he can successively take in order to become more comfortable with the other students.

76. Give Jerry individual projects to work on so that he will cover the same material as the others.

XX. A new algebra formula has been introduced in class. You assign some exercises for the students to work on. As is characteristic of her, Joan completes a few steps in the first problem and asks you to check it; then she proceeds to work a few more steps and again asks you to check. She finishes the problem and once more waits for approval. Even though all of her work is correct, her behavior follows this pattern for each of the problems assigned.

77. Encourage any indication Joan shows of initiative by praising her for her independence.

78. Use the occasions when she asks you to check her work to guide her toward figuring out checking procedures for herself.

79. Explore the causes of Joan's emotional insecurities.

80. Tell her that she cannot expect so much individual attention, that you must distribute your time among all the students.

XXI. Janice, a seventeen-year old, has recently moved from a farming community to a big city. Her clothes are homemade and look it. She has long arms and legs which she has not yet learned to control. She speaks with an "accent." Debra, the class queen, makes fun of her and leads her classmates in ridiculing Janice.

81. Call in Debra and the other ringleaders and tell them that unless they stop teasing Janice, their class dance will be cancelled.

82. Interview Janice to find out to what extent her self-esteem is being impaired by her present experiences.

83. Initiate class discussions about the ways that students can help or hurt their classmates by what they say or do.

84. Help Janice make the transition from one school to another by giving her diagnostic tests in your subject to determine her level of achievement in relation to your own course of study.

XXII. Kenny never gets the point of a joke and is frequently a victim of his classmates' teasing. When Kenny discovers he has been tricked he becomes furious. In class, he is so on guard against the other students that he is often oblivious to the lesson.

85. Reduce his touchiness by gently teaching him how to make jokes himself.

86. Carefully ignore Kenny's anger and focus his attention on the topic at hand.

87. By means of a unit on humor in literature, point out to Kenny what writers have to tell us about the lighter side of life.

88. Help Kenny to see that he is overly sensitive and explore the reasons why he feels so insecure.

XXIII. Judy is a fifth-grader. Her work is very uneven--she does well sometimes but not others. The class is very excited about a proposed field trip but Judy listens quietly and doesn't seem to share the eager anticipation. At a surprise birthday party arranged by her mother, she shows little pleasure and seems incredulous that the others would want to come.

89. As long as her work meets your standards, ignore her moods.

90. Identify the places where Judy is failing to comprehend the material being covered and give her individual help.

91. Get acquainted with Judy and plan with her ways to do better work and get more satisfaction from her friendships.

92. Ask selected members of her class to be friendly to Judy in order to get her to feel and act like an accepted part of the group.

XXIV. Stephanie, enrolled in a high school algebra course, does not have the basic arithmetic skills needed to do the work. She has rejected the suggestion that she get special tutoring.

93. Conduct review sessions for Stephanie and any other students who are not well prepared.

94. Tell her that she is holding up the rest of the class and insist that she either keep up or be dropped from the course.

95. Determine the extent to which an emotional block gets in the way of her progress in math.

96. Remind Stephanie that mathematics is a fundamental subject and essential to her further education.

XXV. Monica, a tenth-grade student, has an IQ of 85. Her compositions in English are correct grammatically but very simple; they usually consist of very short sentences. She is able to complete only one-third of her tests, even though she works diligently. The rest of the class is able, on the whole, to complete the tests within the allotted time.

97. Praise her for doing as well as she does in English, so that she will continue to make progress at her own learning rate.

98. Inform her parents that if Monica does not meet class standards she may have to be transferred to a class that will make fewer demands on her.

99. Encourage the other pupils to respect her for her effort and her contributions in group planning.

100. Permit her to stay in the class even though she is clearly not as capable as the others, but concentrate your attention upon those who can profit from it.

XXVI. Kelly, an eighth-grader, blushes and stammers badly when called upon to recite, although he always knows his material. He does not make suggestions in class or volunteer information. However, when he is with his close friends, he talks freely and sometimes leads the conversation.

101. Reassure him that people are really friendly and not critical of him and that his feelings of inadequacy are unwarranted.

102. Help him to distinguish between the situations in which he is comfortable and those in which he is not, in order for him to develop a plan of action to overcome his shyness.

103. Improve his oral communications skills by arranging for him to practice presenting oral reports in front of small groups before calling upon him to recite in front of the whole class.

104. Call upon him as you would anyone else in the class; he should not expect special treatment.

XXVII. Peter is ten years old but his physical and intellectual growth is that of a thirteen year old. He answers out in class when someone else is asked a question. He does not wait his turn in games and makes the others accept him as captain. At lunch time, he will take or demand cake or cookies from others. If anyone objects to his behavior or tells the teacher, Peter bullies him on his way home.

105. Give him special assignments suitable to his achievement level to channel his energies constructively.

106. Get him to examine his behavior so that he can find out to what he is reacting, and what more satisfying ways there are to cope with frustration, boredom, and the feeling of being disliked.

107. Bench him during playtime until his overall behavior improves.

108. Since his behavior presents problems to the other youngsters, have the pupils discuss how the groupcan cope with those who won't wait their turn and pick on smaller children.

XXVIII. A tenth-grade boy plays truant about once every other week. He lives alone with his father, a successful auto mechanic, who tells him, "School is for the birds. It is a waste of time. I am making a good living even though I never finished high school and never got good grades. . . . "

109. Present information to the boy and his father about current occupational trends and about the kinds of training needed for getting into a skilled occupation these days.

110. In a conference with the father, try to make him see the social implications of his attitude and how he is failing in his responsibility to set his son a model of citizenship.

111. Urge the boy not to scorn his opportunities for schooling and to realize that there is more to education than just learning how to make a living.

112. Warn the father that he is under obligation to obey the law which requires that his son attend school.

XXIX. George, eight years old, is doing considerably better than average work. He is small for his age, and does not get along very well with the other children. At the end of the first semester of the third grade, his parents want him accelerated to the fourth grade and state that they will help him with his schoolwork if necessary. The school district has a yearly pormotion policy and does not encourage acceleration as a rule.

113. Support the recommendation that George be promoted because it would be wrong to hold back a child's intellectual development.

114. Explore with the parents their reasons for wanting George to be promoted--is it for him? Or do they want to be able to boast of his accomplishments?

115. Explain to the parents what acceleration demands academically and emotionally in order that they will be better informed in whatever actions they decide to take.

116. Warn the parents that if George is unable to adjust to the acceleration, academically and socially, they will have to bear full responsibility.

XXX. Although this is his fourth week in kindergarten, Raymond still weeps uncontrollably in class. He seems happy and will participate if his mother stays with him. But he watches her constantly and the minute she attempts to go home, he will cry loudly. She is unwilling to leave him under these conditions.

117. Explain the concept of social immaturity to the parents and advise them that if they will keep him out of school until he is a little older, he may have less difficulty in becoming a responsible and productive group member.

118. Tell Raymond's mother that she must go home and leave him in your hands; he will have to learn to adjust to school and will soon stop crying.

119. Let Raymond's mother know that her presence in school distracts the children and interferes with your teaching them the things that they are there to learn.

120. Explain to the mother that her anxieties about the child are producing a dependency pattern in her son.

TPQ - New Form 4C (1965a)

Name _____
Test _____ Re-Test ____

TPQ 4C Scaler
Scoring Key

A Cont. Did.	B Cont. Dis.	C Stu. Did.	D Stu. Dis.	E Soc. N. Did.	F Soc. N. Dis.
6	3	7	4	1	2
10	12	9	8	16	5
19	13	15	11	17	14
28	22	18	20	26	21
32	25	24	23	29	31
36	40	33	27	35	34
38	47	42	30	37	39
43	51	45	44	48	41
46	60	50	53	54	52
49	64	55	58	63	56
61	72	57	62	68	59
69	76	67	65	80	66
74	78	71	75	81	70
87	84	79	77	94	73
98	86	82	85	97	83
96	90	87	91	104	92
100	93	95	102	107	99
111	97	101	106	112	108
113	103	114	109	116	110
119	105	120	115	118	117

Time:_____ Mean:_____ S.D._____

MIDWEST REGIONAL CENTER FOR PUPIL PERSONNEL SERVICES

SCHOOL INTERVENTION PROJECT

School of Education
University of Michigan

TEACHER OPINIONNAIRE

Name _____ School _____

System _____ Grade or Subject _____

Years Teaching Experience ___ Years with Disturbed _____

Date _____

We are all familiar with the fact that equally effective teachers do not necessarily have identical views on the degree of importance of various class conditions. A classroom element which seems quite important to one person may seem less important to another. All the items were originally suggested by classroom teachers. Since this is a study to understand differences in professional opinion, you are asked to read all the statements about class conditions and then judge the importance of each to you. We are just interested in your own personal opinion, whatever it may be.

The statements are printed on separate cards so that you can easily shift them around until the order suits you. The steps in the task are as follows:

1. Take all of the forty cards and read them over before you do anything with them.

2. Now, taking the most obvious statements first, start to make a rough sort so that you have four piles of cards:

   In Pile One: Are those statements which you feel are very or most important for an optimal class condition.

   In Pile Two: Are those statements which you feel are quite important for an optimal class condition.

In Pile Three: Are those statements which you feel are of some importance for an optimal class condition.

In Pile Four: Are those statements which you feel are of least or no importance for an optimal class condition.

3. And now for the hard part. Continue to check through the statements and shift them from pile to pile UNTIL YOU HAVE SORTED THE FORTY CARDS INTO THE FOUR PILES WITH EXACTLY TEN CARDS IN EACH PILE. You will end up with ten most important in pile one, and so on. Sometimes the forced sorting into four equal piles will push a card into a pile that does not exactly suit you, but please make the best judgement you can for now.

4. Now you have four equal piles of cards. To make recording easy, there are numbers on the backs of the cards. Please record these numbers in the proper spaces below.

   The cards end up this way.

   In Pile One are the following numbers (ten only):

   ____ ____ ____ ____ ____ ____ ____ ____ ____ ____

   In Pile Two are the following numbers (ten only):

   ____ ____ ____ ____ ____ ____ ____ ____ ____ ____

   In Pile Three are the following numbers (ten only):

   ____ ____ ____ ____ ____ ____ ____ ____ ____ ____

   In Pile Four are the following numbers (ten only):

   ____ ____ ____ ____ ____ ____ ____ ____ ____ ____

TEACHER OPINIONNAIRE

LIST OF ITEMS IN ORDER PRESENTED

L 1. Organizing lessons so as to obtain maximum pupil activity.

MH 2. Freedom for the student to express his feelings about what goes on in class.

L 3. Getting the class interested in a topic before presenting it as a topic for study.

D 4. Frequent provision for "individual work time" during which each pupil may engage in projects of his own choice.

D 5. Knowing the test results of each pupil on the range of individual differences.

MH 6. Class conditions which do not create pressure and tension for pupils.

MH 7. A high level of class acceptance and friendliness toward members.

GP 8. A cohesive high morale group spirit in the classroom.

D 9. Having each pupil assist in evaluating and rating himself.

D 10. Not expecting all children to be at or above grade level at the end of the year regardless of the teaching methods used.

L 11. Modifying or eliminating topics which hold little pupil interest.

MH 12. A class in which pupils do not bicker or pick on each other.

GP 13. Opportunity for students serving in class leadership roles.

MH 14. All pupils having a clear idea of acceptable vs. unacceptable classroom behavior.

L 15. Maintaining continuity between the day to day lessons.

L 16. Teaching so that the pupil immediately sees the value of what he is to learn.

MH 17. Trying to alleviate anxiety.

MH 18. Teacher friendliness toward every pupil.

GP 19. Pupils encouraging each other in their classwork.

MH 20. Class being friendly to pupils who are "different."

D 21. Providing materials which coincide with the ability levels of the children.

L 22. Giving immediate approval when a child does a good piece of work.

D 23. Grouping children for instruction to provide for more successful learning experience.

L 24. Extensive use of a variety of teaching aids, such as: models, posters, movies, recordings, class projects, experiments, etc.

GP 25. Frequent group discussion in class.

GP 26. Pupils being able to talk with each other informally about classroom business.

GP 27. Some class leadership roles decided by class election.

GP 28. Some teacher-group planning of learning activities.

L 29. Spending such time as needed to insure that all pupils have a clear idea of the tasks.

L 30. Keeping the pupil informed on how he is doing.

D 31. Grading pupils on what they do in accord with their capacity.

GP 32. Awareness of friendship patterns in the classroom.

D 33. Giving each pupil some choice in what he will study.

D 34. Planning special work for special (dull, gifted, emotionally disturbed, etc.) pupils.

D 35. Having individualized work programs so each pupil can progress at his own rate.

L 36. Correcting assignments as promptly as possible.

GP 37. Use of student committees in some classroom activities.

GP 38. Some opportunities for students to help each other in their classwork.

MH 39. Pupils feel friendly to the teacher.

MH 40. Pupils not being afraid of failure.

TEACHER OPINIONNAIRE

SCORING

SCORING

Noting the code, add up scores on each of the four dimensions as follows:

Those in Pile One - 4 points each item

Those in Pile Two - 3 points each item

Those in Pile Three - 2 points each item

Those in Pile Four - 1 point each item

Record the score for each item in the spaces indicated on the score sheet.

LIST OF ITEM CODES

	L.	M.H.	G.P.	D.
1.	—			
2.		—		
3.	—			
4.				—
5.				, —
6.		—		
7.		—		
8.			—	
9.				—
10.				, —
11.	—			
12.		—		
13.			—	
14.		—		
15.	, — ,			
16.				
17.	—			
18.		—		
19.		—		
20.		, — ,		
21.				—
22.	—			
23.				—
24.	—			
25.			, — ,	
26.			—	
27.			—	
28.			—	
29.	—			
30.	, — ,			
31.				—
32.			—	
33.				—
34.				—
35.				, —
36.	—			
37.			—	
38.			—	
39.		—		
40.		, — ,		
TOTALS				

SEMANTIC DIFFERENTIAL

Name_____ Date_____

INSTRUCTIONS: The purpose of this study is to measure the meanings of certain things to various people by having them judge them against a series of descriptive scales. In taking this test, please make your judgements on the basis of what these things mean to you. On each page of this booklet you will find a different concept to be judged and beneath it a set of scales. You are to rate the concept on each of these scales in order.

Here is how you are to use these scales:

If you feel that the concept at the top of the page is very closely related to one end of the scale, you should place your check-mark as follows:

fair __X__ : ____ : ____ : ____ : ____ : ____ : ____ unfair

OR

fair ____ : ____ : ____ : ____ : ____ : ____ : __X__ unfair

If you feel that the concept is quite closely related to one or the other end of the scale (but not extremely), you should place your check-mark as follows:

strong ____ : __X__ : ____ : ____ : ____ : ____ : ____ weak

OR

strong ____ : ____ : ____ : ____ : ____ : __X__ : ____ weak

If the concept seems only slightly related to one side as opposed to the other side (but is not really neutral), then you should check as follows:

active ____ : ____ : __X__ : ____ : ____ : ____ : ____ passive

OR

active ____ : ____ : ____ : ____ : __X__ : ____ : ____ passive

The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the thing you're judging.

If you consider the concept to be neutral on the scale, both sides of the scale equally associated with the concept, or if the scale is completely irrelevant, unrelated to the concept, then you should place your check-mark in the middle space.

safe ___ : ____ : ____ : __X__ : ____ : ____ : ____ dangerous

IMPORTANT: (1) Place your check-mark in the middle of the spaces, not on the boundaries.

	THIS			NOT THIS			
____:	__X__ :	____:	____:	____:	____:	____:	____:

(2) Be sure you check every scale for every concept--do not omit any.

(3) Never put more than one check-mark on a single scale.

Sometimes you may feel as though you've had the same item before on the test. This will not be the case, so do not look back and forth through the items. Do not try to remember how you checked similar items earlier in the test. Make each item a separate and independent judgement. Work at fairly high speed through this test. Do not worry or puzzle over individual items. It is your first impressions, the immediate feelings about the items, that we want. On the other hand, please do not be careless, because we want your true impressions.

I Am . . .

good	____:	____:	____:	____:	____:	____:	____	bad
large	____:	____:	____:	____:	____:	____:	____	small
hard	____:	____:	____:	____:	____:	____:	____	soft
sweet	____:	____:	____:	____:	____:	____:	____	sour
strong	____:	____:	____:	____:	____:	____:	____	weak
calm	____:	____:	____:	____:	____:	____:	____	agitated
kind	____:	____:	____:	____:	____:	____:	____	cruel
hard	____:	____:	____:	____:	____:	____:	____	soft
deep	____:	____:	____:	____:	____:	____:	____	shallow
bitter	____:	____:	____:	____:	____:	____:	____	sweet
sacred	____:	____:	____:	____:	____:	____:	____	profane
heavy	____:	____:	____:	____:	____:	____:	____	light
clear	____:	____:	____:	____:	____:	____:	____	hazy
thick	____:	____:	____:	____:	____:	____:	____	thin
bright	____:	____:	____:	____:	____:	____:	____	dark
base	____:	____:	____:	____:	____:	____:	____	treble
fresh	____:	____:	____:	____:	____:	____:	____	stale
fair	____:	____:	____:	____:	____:	____:	____	unfair
rugged	____:	____:	____:	____:	____:	____:	____	delicate
wide	____:	____:	____:	____:	____:	____:	____	narrow

A P P E N D I X B

BEHAVIOR PROBLEM CHECKLIST: TEACHER PERCEPTIONS OF TARGET CHILDREN

BEHAVIOR PROBLEM CHECKLIST

Donald R. Peterson, Ph.D. and Herbert C. Quay, Ph.D.

Children's Research Center
University of Illinois
Champaign, Illinois

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Donald R. Peterson, 1967

Col. No. Please complete items 1 to 6 carefully.

(1-8) 1. Name (or identification number) of child

_____

(9-10) 2. Age (in years) _____

(11) 3. Sex _____(Male-1; Female-2)

(12) 4. Father's Occupation _____

(13) 5. Name of person completing this checklist

_____

(14) 6. Relationship to child (circle one)

a. Mother b. Father c. Teacher d. Other _____

Please indicate which of the following constitute problems, as far as this child is concerned. If an item does not constitute a problem, encircle the zero; if an item constitutes a mild problem, encircle the one; if an item constitutes a severe problem, encircle the two. Please complete every item.

Note: The checklist was given as it appears here; seven items relating to the Subcultural Delinquency Factor were removed from the original Checklist as being inappropriate for young children.

Behavior Problem Checklist

0	1	2	1.	Oddness, bizarre behavior
0	1	2	2.	Restlessness, inability to sit still
0	1	2	3.	Attention-seeking, "show-off" behavior
0	1	2	4.	Doesn't know how to have fun; behaves like a little adult
0	1	2	5.	Self-consciousness; easily embarrassed
0	1	2	6.	Fixed expression, lack of emotional reactivity
0	1	2	7.	Disruptiveness; tendency to annoy and bother others
0	1	2	8.	Feelings of inferiority
0	1	2	9.	Boisterousness, rowdiness
0	1	2	10.	Crying over minor annoyances and hurts
0	1	2	11.	Preoccupation; "in a world of his own"
0	1	2	12.	Shyness, bashfulness
0	1	2	13.	Social withdrawal, preference for solitary activities
0	1	2	14.	Dislike for school
0	1	2	15.	Jealousy over attention paid other children
0	1	2	16.	Repetitive speech
0	1	2	17.	Short attention span
0	1	2	18.	Lack of self-confidence
0	1	2	19.	Inattentiveness to what others say
0	1	2	20.	Easily flustered and confused
0	1	2	21.	Incoherent speech
0	1	2	22.	Fighting
0	1	2	23.	Temper tantrums
0	1	2	24.	Reticence, secretiveness
0	1	2	25.	Hypersensitivity; feelings easily hurt
0	1	2	26.	Laziness in school and in performance of other tasks
0	1	2	27.	Anxiety, chronic general fearfulness
0	1	2	28.	Irresponsibility, undependability
0	1	2	29.	Excessive daydreaming
0	1	2	30.	Tension, inability to relax
0	1	2	31.	Disobedience, difficulty in disciplinary control
0	1	2	32.	Depression, chronic sadness
0	1	2	33.	Uncooperativeness in group situations
0	1	2	34.	Aloofness, social reserve
0	1	2	35.	Passivity, suggestibility; easily led by others
0	1	2	36.	Clumsiness, awkwardness, poor muscular coordination
0	1	2	37.	Hyperactivity; "always on the go"
0	1	2	38.	Distractibility
0	1	2	39.	Destructiveness in regard to his own and/or other's property
0	1	2	40.	Negativism, tendency to do the opposite of what is requested

0	1	2	41.	Impertinence, sauciness
0	1	2	42.	Sluggishness, lethargy
0	1	2	43.	Drowsiness
0	1	2	44.	Profane language, swearing, cursing
0	1	2	45.	Nervousness, jitteriness, jumpiness; easily startled
0	1	2	46.	Irritability; hot-tempered, easily aroused to anger
0	1	2	47.	Enuresis, bed-wetting
0	1	2	48.	Often has physical complaints, e.g. headaches, stomach ache.

Scoring Key for the Behavior Problem Checklist

I. Factor: Conduct Problem (Unsocialized Aggression, Psychopathy) (17 items)

Item	Average Factor Loading from	No. Separate Factor Analysis
2	.60	10
3	.62	10
7	.70	9
9	.66	10
14	.35	10
15	.40	8
22	.63	7
23	.51	8
28	.57	9
31	.70	10
33	.62	9
37	.51	10
39	.57	7
40	.59	7
41	.57	10
44	.48	7
46	.59	8

II. Factor: Personality Problem (Neurotic-Disturbed) (14 items)

4	.41	10
5	.55	10
8	.60	10
10	.33	7
12	.51	10
13	.50	10
18	.60	10
20	.53	9
24	.38	8
25	.50	8
27	.53	8
30	.34	6
32	.48	8
34	.33	10

III. Factor: Inadequacy-Immaturity (8 items)

11	.48	5
17	.40	5
26	.41	5
29	.46	5
35	.34	5
42	.36	10
43	.32	4

A P P E N D I X C

OScAR 4V - OBSERVATION SCHEDULE AND RECORD, NUMBER 4, VERBAL

List of Adapted Observational Categories
Coding Sheet
Data Reduction

Summary of Categories of Verbal Behavior
Adapted from OScAR 4V-Medley & Mitzel

I. Statements: The first two rows of boxes at the top of the sheet are for teacher statements which do not respond to or solicit a response from the child. The bottom diagonal of each box is for marking initiating statements, the top is for continuing statements.

A. Teacher Statements:

1. Affective - statements by the teacher which should communicate some affect to the child.

1) Aff.+ - statements which imply consideration for the child and his feelings, approval, or generally convey a sense of warmth and regard.

2) Aff.- -statements which imply rebuke, disapproval, hostility, or a negative feeling tone, sarcasm.

2. Procedural - statements which contain neither overt affect nor content substance but which involve communicating procedural information dealing in an emotionally neutral way with the conduct of classroom activities.

1) Dir (Directing) - a statement which has the force of an order or command. "Everyone pick up a red crayon."

2) Des (Describing) - merely tells what the class or teacher has done, will do, or is doing, without putting specific pressure on students to behave in a certain way. "I guess it's about time for snacks."

3. Substantive - statement containing little affect but is directly referring to content presented for the children to learn.

1) Inf (Informing) - statements conveying facts, generalizations, etc. "Plants grow better when they are placed in the sun."

2) PRB (Problem Structuring) - statements that pose issues or should provide questions about substantive content without providing direct answers.

4. Or-Set (Orientation or Set) - statements which imply a specific intent on the part of the teacher to give the child an orientation or set in a particular situation; it is intended to create an orienting response on the part of the child favorable to desired cognitive or social learning. "Look at the table; all the red pieces are on this side and the blue over here."

5. PPL (Pupil Statements) - tallied whenever one pupil addresses another, whether or not it solicits a response.

II. Interchanges - an interchange is an episode where the teacher asks a question, gets a response, and reacts to the response. The capsules in the third row are used for tallying these, which are categorized in reference to the teacher's reaction to the student. Those interchanges initiated by the teacher are tallied in the first three capsules on the left; those by the student in the capsule on the extreme right. The other capsule is used to describe management situations and will be discussed below.

A. Substantive interchanges: Those in which the pupil's utterance refers to content to be learned. Such interchanges contain two parts: entry and exit.

1. Entries: a substantive interchange begins with one of four types of entries

a. SPI (Pupil Initiated) - the pupil addresses a statement or question to the teacher.

b. ELB (Elaboration) - the teacher addresses a question to a pupil which refers directly to a previous pupil comment.

c. DVG (Divergent) - the teacher addresses a question to a pupil which does not refer directly to a previous pupil comment, and which offers him a choice of two or more acceptable or "correct" answers.

d. CVG (Convergent) - the teacher addresses a question to a pupil which does not refer directly to a previous pupil comment and to which there is only one acceptable answer.

2. Exits from Completed Substantive Interchanges: After the pupil has asked his question or made

his answer, the teacher disposes of the answer in one of six ways, called Exits. Exits are first classified according to the information they contain about the correctness or acceptability of what the pupil has said.

a. If the teacher clearly indicates that what the pupil has said is correct or acceptable, the interchange is classified as:

1) SP (Supportive) - if praise or enthusiasm is shown.

2) AP (Approved) - praise is not given.

b. If the teacher clearly indicates that what the pupil has said is incorrect or unacceptable, the interchange is classified as:

1) CR (Criticized) - if disapproval of either the pupil or what he has said is expressed.

2) NR (Neutrally Rejected) - if no disapproval is expressed.

c. If the teacher makes some response to what the pupil says which does not clearly indicate whether it is correct (acceptable) or incorrect (unacceptable) the interchange is classified as AC (Accepted).

d. If the teacher makes no response, the interchange is classified as NE (Not Evaluated).

3. Exits from Incompleted Substantive Interchanges: If a pupil does not respond to a teacher's question, the interchange is tallied as -

a. RE (Re-Entered) - if the teacher repeats or re-phrases the question.

b. AB (Abandoned) - if the teacher switches questions or pupils, or makes a statement.

B. Non-Substantive Interchanges are those in which the pupil's contribution does not refer to content to be learned.

1. Teacher-Initiated Non-Substantive Interchanges are classified as Positive or Negative according to the affective content of the teacher's question.

2. Pupil-Initiated Non-Substantive Interchanges are classified as -

Positive - if the teacher supports, approves, or accepts the pupil's suggestion.

Negative - if the teacher criticizes, neutrally rejects, or ignores it.

III. Management-Intervention: Behaviors in this category are to be tallied in the fourth capsule from the left. This category is to be used when the teacher goes beyond procedural directions and actively intervenes in ongoing behavior.

A. The teacher's initial intervention is to be tallied with a "1" in the top two or bottom two divisions of the capsule:

1. SUG. - a statement suggesting the child stop behaving in a certain way, or start doing what the teacher has directed.

2. DSTR.- a statement attempting to distract the child to an alternate activity, conversational topic, etc.

3. DIR. - a statement specifically directing the child to begin or cease a certain behavior.

4. THRT. - a statement which overtly or covertly offers a threat if the child does not comply.

B. The child's response:

1. If the child complies with the teacher's initial intervention, tally a "1" in the middle box labelled +R.

2. If the child does not comply, tally a "1" in the middle box labelled -R.

C. Teacher's response:

1. If the teacher now responds positively to the child, using positive feedback, affection, approval, etc., check the top box labelled +F.B.

2. If the teacher rejects the child's response or responds negatively, check the bottom middle section labelled -F.B.

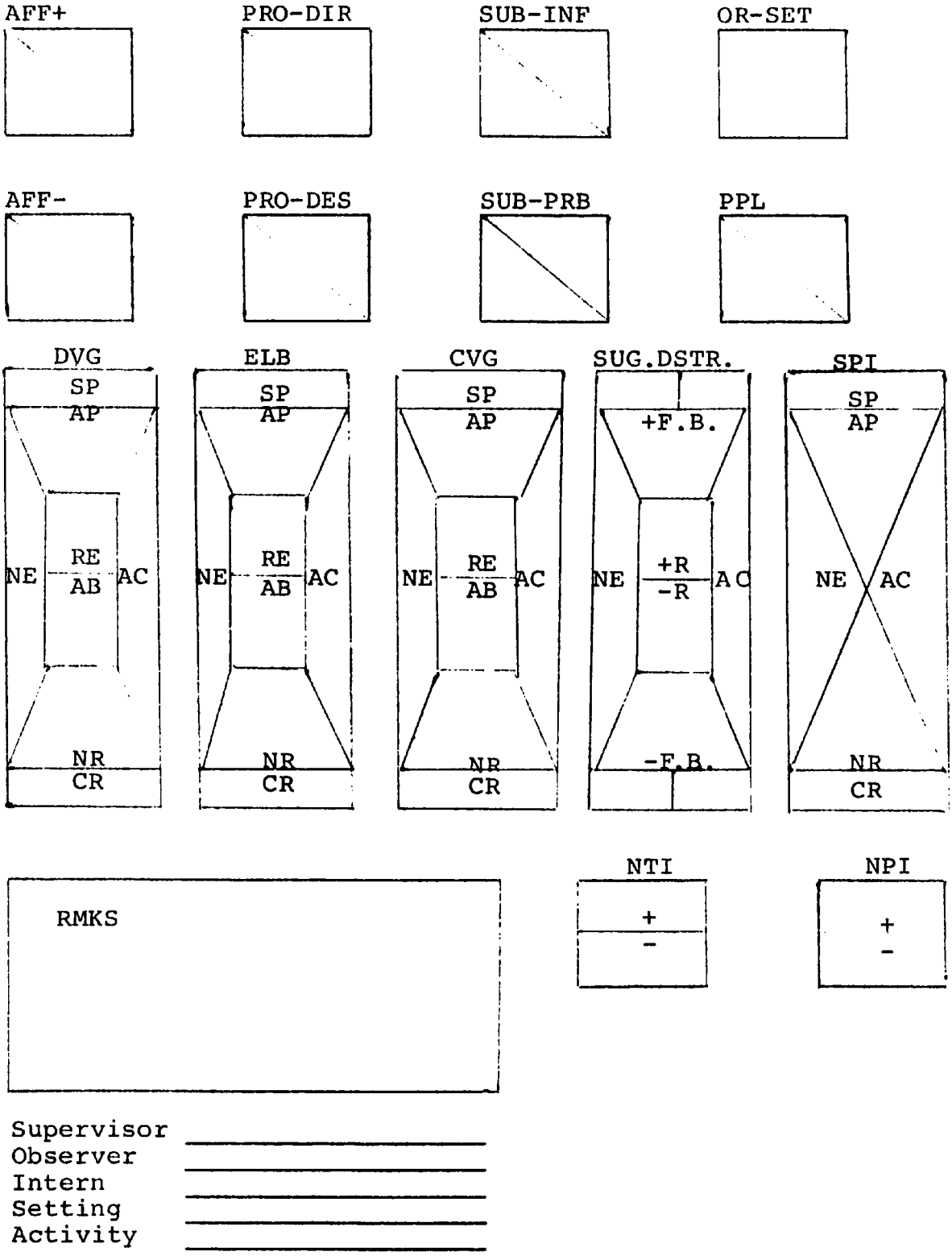
3. If the teacher accepts the child's response in the sense of: All right, let's just forget it, mark AC (Accepts) in the right vertical section.

4. If the teacher drops the matter without giving the child any feedback, mark NE (No Evaluation).

D. If the outcome of the cycle forces the teacher to make a second intervention because of noncompliance or behavior difficulties, tally this second cycle in the same way, using "2"s instead of "1"s.

IV. Procedure: Tally verbal behavior for five minutes by the clock. Then continue with the other observation forms.

Coding Sheet - Adapted OScAR 4V



Supervisor _____
Observer _____
Intern _____
Setting _____
Activity _____

Adapted OScAR 4V: Data Reduction

Single observation categories from the the adapted OScAR 4V were combined on the bases of theoretical relevance to the construct of classroom psychological climate in order to form a smaller number of supraordinate categories for data analysis. The supraordinate categories are on the left, and the original observational categories combined to form each supraordinate category are on the right. The original observational categories were not weighted, but were combined additively.

1. Teacher Directing	3) Procedural: Direct 5) Substantive Information 25) Total Convergent Questions 59) Total Teacher Initiation
2. Teacher Enhancing	4) Procedural: Describe 6) Substantive: Problem Solving 16) Total Divergent Questions 60) Total Pupil Initiation
3. General Positive Affectivity	1) Affective Positive 8) Divergent: Supportive 17) Convergent: Supportive 37) Substantive Pupil Initiation: Supportive 49) Nonsubstantive Teacher Initiation: Supportive 51) Nonsubstantive Pupil Initiation: Supportive
4. Total Academic Activity	3) Procedural: Direct 4) Procedural: Describe 5) Substantive: Information 6) Substantive: Problem Solving 7) Orientation - Set 16) Total Divergent Questions 25) Total Convergent Questions 43) Substantive Pupil Initiation: Positive 44) Substantive Pupil Initiation: Neutral 45) Substantive Pupil Initiation: Negative
5. Total Social Activity	1) Affective: Positive 2) Affective: Negative

		49) Nonsubstantive Teacher Initiation: Positive
		50) Nonsubstantive Teacher Initiation: Negative
		51) Nonsubstantive Pupil Initiation: Positive
		52) Nonsubstantive Pupil Initiation: Negative
6.	Affective Positive	1) Affective Positive
7.	Affective Negative	2) Affective Negative
8.	Demand Management Style	31) Management: Direct 32) Management: Threat
9.	Total Management Acts	Combination of variables: 31 + 32 + 33 + 34
10.	Benign Management Style	29) Management: Suggest 30) Management: Distract
11.	Positive Management Response Style	35) Management Conform: Positive Response
12.	Negative Management Response Style	33) Management Conform: No Evaluation 34) Management Conform: Accept
13.	Total Convergent Questions	Variable 25
14.	Total Teacher Initiation	Variable 59
15.	Total Student Initiation	Variable 60
16.	Total Teacher Acts	Variable 58

A P P E N D I X D

CASES - COPING ANALYSIS SCHEDULE

FOR EDUCATIONAL SETTINGS

List of Observational Categories
and Definitions
Coding Sheet
Data Reduction

Coping Analysis Schedule for Educational Settings (CASES)

Robert Spaulding
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1. Aggressive Behavior: Direct attack: grabbing, pushing, hitting, pulling, kicking, name calling; destroying property: smashing, tearing, breaking.

2. Negative (Inappropriate) Attention Getting Behavior: Annoying, bothering, whining, loud talking (unnecessarily), attention getting aversive noise-making, belittling, criticizing.

3. Manipulating and Directing Others: Manipulating, bossing, commanding, directing, enforcing rules, conniving, wheedling, controlling.

4. Resisting Authority: Resisting, delaying; passive aggressive behavior, pretending to conform, conforming to the letter but not the spirit; defensive checking.

5. Self Directed Activity: Productive working; reading, writing, constructing with interest; self directed dramatic play (with high involvement).

6. Paying Rapt Attention: Listening attentively, watching carefully; concentrating on a story being told, a film being watched, a record being played.

7. Sharing and Helping: Contributing ideas, interests, materials, helping; responding by showing feeling (laughing, smiling, etc.) in audience situations; initiating conversation.

8. Social Interaction: Mutual give and take, cooperative behavior, integrative social behavior; studying or working together where participants are on a par.

9. Seeking Support, Assistance and Information: Bidding or asking teachers or significant peers for help, support, sympathy, affection, etc., being helped; receiving assistance.

10. Following Directions Passively and Submissively: Doing assigned work without enthusiasm or great interest; submitting to requests; answering directed questions; waiting for instructions as directed.

11. Observing Passively: Visual wandering; watching others work; checking on noises or movements; checking on activities of adults or peers.

12. Responding to Internal Stimuli: Daydreaming; sleeping; rocking or fidgeting (noting transaction with external stimuli).

13. Physical Withdrawal or Avoidance: Flight; moving away; hiding; avoiding transactions by movement away or around.

Note: Categories 5 through 10 are further coded as a or b in structured settings to indicate appropriate or inappropriate behavior (based on social expectations for the setting).

Generally data is collected on a 10 second sampling, but may readily be used to collect class norms by sampling each child in turn on a random time basis.

School _____ Observer _____
Grade _____ Date _____

CASES - Data Sheet

Beginning Time _____ End Time _____
Setting (situation and activity) _____

_____

Child or Time Interval	1	2	3	4	5	6	7	8	9	10	11	12	13	Comments
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40														
50														
Total Frequency														
Percentage														

Data Reduction: CASES

In accordance with the author's suggestion, the 13 original observational categories from CASES were collapsed into three supraordinate categories for data analysis, in the following manner:

1. Resisting Behavior	Aggressive Behavior Negative Attention Getting Behavior Manipulating and Directing Others Resisting Authority
2. Integrative Activities	Self Directed Activity Paying Rapt Attention Sharing and Helping Social Interaction Seeking Support, Assistance, Information
3. Passive Withdrawal	Following Directions Passively and Submissively Observing Passively Responding to Internal Stimuli Physical Withdrawal or Avoidance

A P P E N D I X E

EQUIPMENT USED TO RECORD TEACHER OBSERVATIONS

Equipment Used to Record Teacher Observations

In order to record verbal teacher behavior, a cordless microphone (in reality a small FM transmitting station) was utilized. This cordless microphone is produced and distributed by Security Communications, Electronic Business Systems, 330 Casa Linda Plaza, Dallas, Texas 75218, Model 008. This microphone has a broadcasting range of up to 1000 feet under normal operating conditions, is adjustable to standard FM radio frequencies (88-108 mc) and has enough sensitivity to detect all sounds at normal conversational distance. It operates from a standard nine volt transsistor battery.

The microphone itself is approximately the size of a cigarette package, and would be worn in the teacher's shirt pocket, fastened to her belt, or pinned to a shirt. A tie clip sized small microphone was attached to the teacher's collar. The cordless microphone transmitted to a Panasonic FM portable radio, which was set to a matched frequency. This radio was connected to a Craig portable stereo tape recorder. Due to a wired-in bypass, the observer could monitor, through the radio, what was being recorded, or could turn off the radio volume altogether. The other channel of the stereo tape recorder was connected to a regular microphone used by the observer to identify observation sequences and to report on movement around the room, classroom tasks and activities, and other observations of interest. Therefore, it was possible to listen simultaneously to the teacher's verbal behavior and the observer's comments.

A P P E N D I X F

DESCRIPTIVE DATA AND TESTS OF SIGNIFICANCE FOR DIFFERENCES BETWEEN EXPERIENCED AND INEXPERIENCED TEACHERS

Edwards Personal Preference Schedule
Semantic Differential, Self Ratings
Teacher Practices Questionnaire
Teacher Opinionnaire
Semantic Differential, Teacher Attitudes
Behavior Problem Checklist
Semantic Differential, Teacher Perceptions of Target Children

TABLE F-1.--Edwards Personal Preference Schedule: Descriptive Data and Tests of Significance for Differences between Experienced and Inexperienced Teachers

Variable	Total Group Mean	s.d.	Exp.Teachers Mean	Inexp.Teach. Mean	Analysis of Variance Exp. X Inexp. Teachers	
					F ratio	p
Consistency	11.6	2.1	12.0	11.2	.73	.59
n Achievement	14.3	4.3	14.2	14.3	.01	.96
n Deference	11.6	4.3	13.1	10.0	2.84	.11
n Order	9.8	4.5	11.9	7.6	5.71	.03
n Exhibition	12.5	2.5	12.0	13.1	.98	.66
n Autonomy	12.8	5.7	12.6	13.0	.02	.88
n Affiliation	18.5	2.8	19.6	17.4	3.55	.07
n Succorance	12.4	4.6	12.8	11.9	.19	.67
n Intraception	18.5	4.9	17.4	19.6	1.03	.32
n Dominance	14.2	5.4	12.8	15.5	1.28	.27
n Abasement	13.4	4.7	12.4	14.3	.79	.61
n Nurturance	17.2	4.9	18.0	16.3	.59	.54
n Change	18.0	5.8	17.5	18.4	.12	.74
n Endurance	11.7	4.6	12.3	11.0	.39	.55
n Heterosexuality	14.5	4.1	13.0	16.0	3.00	.10
n Aggression	10.4	4.2	9.1	11.7	2.04	.17

TABLE F-2.--Semantic Differential, Self Ratings: Descriptive Data and Tests of Significance for Differences between Experienced and Inexperienced Teachers

Variable	Total Group Mean	s.d.	Exp.Teachers' Mean	Inexp.Teach. Mean	Analysis of Variance Exp. X Inexp.Teachers	
					F ratio	p
I Am: Evaluative	54.4	5.2	53.8	55.1	.37	.56
I Am: Potency	38.7	9.0	39.7	37.6	.26	.62
I Would Like To Be: Evaluative	61.2	4.5	61.7	60.8	.22	.65
I Would Like To Be: Potency	39.4	6.3	39.5	39.2	.01	.91

TABLE F-3.--Teacher Practices Questionnaire: Descriptive Data and Tests of Significance for Differences between Experienced and Inexperienced Teachers

Variable	Total Group Mean	s.d.	Exp.Teachers' Mean	Inexp.Teach. Mean	Analysis of Variance Exp. X Inexp.Teachers	
					F ratio	p
Content Didactic	51.6	10.5	51.7	50.5	.20	.66
Content Discovery	72.5	8.0	69.9	74.9	2.85	.11
Student Didactic	71.1	11.6	78.3	72.9	.50	.51
Student Discovery	83.8	9.9	76.1	86.4	1.53	.23
Social N Didactic	40.4	10.6	40.1	40.9	.04	.83
Social N Discovery	73.1	10.0	66.7	74.4	.34	.57

TABLE F-4.--Teacher Opinionnaire: Descriptive Data and Tests of Significance for Differences between Experienced and Inexperienced Teachers

Variable	Total Group Mean	s.d.	Exp.Teachers' Mean	Inexp.Teach. Mean	Analysis of Variance Exp. X Inexp.Teachers	
					F ratio	p
Learning	24.8	3.3	24.7	25.2	.13	.73
Mental Health	29.0	4.1	30.8	27.4	2.76	.11
Group Process	19.9	2.6	19.8	20.4	.67	.57
Development	26.1	2.9	24.3	28.1	3.08	.09

TABLE F-5.--Semantic Differential, Educational Attitudes of Teachers: Descriptive Data and Tests of Significance for Differences between Experienced and Inexperienced Teachers

Variable	Total Group Mean	s.d.	Exp.Teachers' Mean	Inexp.Teach. Mean	Analysis of Variance Exp. X Inexp.Teachers	
					F ratio	p
Children Are: Evaluative	53.8	5.5	52.4	55.5	1.78	.20
Children Are: Potency	37.6	5.7	38.0	37.3	.10	.75
School Is: Evaluative	48.5	8.0	49.2	47.8	.17	.69
School Is: Potency	48.6	6.4	47.2	50.1	1.22	.28
Teachers Are: Evaluative	51.9	7.8	50.1	53.2	.63	.55
Teachers Are: Potency	45.6	5.1	46.5	44.7	.80	.61
Problem Children Are: Evaluative	37.2	5.5	34.4	40.1	9.61	.01
Problem Children Are: Potency	42.1	5.6	43.1	41.1	.76	.60
Mental Health Is: Evaluative	55.1	8.9	54.7	55.4	.01	.91
Mental Health Is: Potency	46.0	6.7	47.1	44.9	.57	.53

TABLE F-6.--Behavior Problem Checklist, Teacher Perceptions of Target Children: Descriptive Data and Tests of Significance for Differences between Experienced and Inexperienced Teachers

Variable	Total Group Mean	s.d.	Exp.Teachers' Mean	Inexp.Teach. Mean	Analysis of Variance Exp. X Inexp.Teachers	
					F ratio	p
Conduct Problem	10.1	9.3	9.7	10.5	.09	.76
Personality Problem	6.5	5.5	5.6	7.4	1.41	.24
Inadequate-Immature	3.2	3.1	3.0	3.5	.28	.61

TABLE F-7.--Semantic Differential, Teacher Perceptions of Target Children: Descriptive Data and Tests of Significance for Differences between Experienced and Inexperienced Teachers

Variable	Total Group Mean	s.d.	Exp.Teachers' Mean	Inexp.Teach. Mean	Analysis of Variance Exp.X Inexp. Teachers	
					F ratio	p
Evaluative	44.9	11.5	44.5	45.4	.08	.77
Potency	38.3	11.6	37.9	38.8	.09	.77

A P P E N D I X G

DESCRIPTIVE INFORMATION CONCERNING

OBSERVATIONAL INSTRUMENTS

OScAR 4V
CASES

TABLE G-1.--Combined OScAR Dimensions, Means and Standard Deviations, Each Category Representing a 35 Minute Period

Variable	Mean	Standard Deviation
Teacher Directing	182.4	53.5
Teacher Enhancing	40.7	9.8
General Positive Affectivity	18.9	9.3
Total Academic Activity	40.1	10.8
Total Social Activity	15.9	6.8
Affective Positive	24.2	15.2
Affective Negative	4.7	12.6
Demand Management Style	2.2	1.6
Total Management Acts	3.6	3.2
Benign Management Acts	5.8	4.1
Positive Management Response Style	.8	1.6
Negative Management Response Style	3.2	2.3
Total Convergent Questions	97.1	68.9
Total Teacher Initiation	465.2	112.0
Total Student Initiation	55.7	26.3
Total Teacher Activity	520.9	113.8

TABLE G-2.--CASES: Means and Standard Deviations for 100 Observational Codes (One Every 10 Seconds)

Variable	Mean	Standard Deviation
Resisting Behavior	8.0	9.7
Integrative Activities	64.0	18.4
Passive Withdrawal	27.9	15.6

A P P E N D I X H

CORRELATIONS BETWEEN PREDICTOR AND CRITERION VARIABLES

TABLE H-1.--Edwards Personal Preference Inventory by Behavior Problem Checklist

	Conduct Problem	Personality Problem	Inadequate Immature
Consistency	.35	.06	.12
Achievement	-.14	.16	-.14
Deference	-.26	-.04	-.35
Order	-.27	-.23	-.14
Exhibitionism	.11	.39	.08
Autonomy	-.03	.13	-.38
Affiliation	.12	-.28	-.05
Succorance	.19	-.04	.34
Intraception	.17	.02	.07
Dominance	-.18	.00	.29
Abasement	.33	.17	.33
Nurturance	.07	-.19	.07
Change	.15	.15	.15
Endurance	-.23	-.02	-.23
Heterosexuality	-.00	.02	.00
Aggression	.01	-.24	.01

TABLE H-2.--Edwards Personal Preference Inventory by Semantic Differential Ratings of Target Children

	Evaluative	Potency
Consistency	-.49*	.11
Achievement	.13	.23
Deference	.04	-.36
Order	.12	-.13
Exhibitionism	.07	-.16
Autonomy	-.14	-.41*
Affiliation	-.25	.16
Succorance	-.16	.49*
Intraception	-.15	.01
Dominance	.25	.36
Abasement	-.13	.12
Nurturance	-.09	.20
Change	-.18	-.56*
Endurance	.15	-.06
Heterosexuality	.40	.28
Aggression	-.03	.29

*Statistically significant at .05 level

TABLE H-3.--Semantic Differential Self Rating by Behavior Problem Checklist

	Conduct Problem	Personality Problem	Inadequate Immature
I Am: Evaluative	.256	.467*	.346
I Am: Potency	.317	-.193	.121
I Would Like To Be: Evaluative	.109	.020	.374
I Would Like To Be: Potency	.084	-.090	-.292

*Statistically significant at .05 level

TABLE H-4.--Semantic Differential Self Rating by Semantic Differential Rating of Target Children

	Evaluative	Potency
I Am: Evaluative	-.141	.285
I Am: Potency	.244	.301
I Would Like To Be: Evaluative	.089	.296
I Would Like To Be: Potency	-.226	.033

*Statistically significant at .05 level

TABLE H-5.--Edwards Personal Preference Schedule by OScAR Behavioral Categories

	Teach. Dir.	Teach. Enhanc.	Gen.Pos. Aff.	Aff. Neg.	Demand Mgt. Style	Benign Mgt. Style	Tot.St. Init.	Tot. Teach. Activity
Consistency	.181	.117	.223	-.351	-.070	-.261	.105	.176
Achievement	-.092	.591*	.277	-.296	-.113	.045	.254	.016
Deference	-.028	-.113	-.288	.102	.084	.147	-.047	-.033
Order	.394	-.213	-.430*	.338	.045	.213	-.056	.353
Exhibition	.137	.357	-.288	-.205	-.312	-.122	.129	.156
Autonomy	-.022	.505*	-.134	-.077	-.352	.284	-.167	-.004
Affiliation	.013	-.210	-.024	.285	.420*	.488*	-.566*	-.009
Succorance	.106	-.354	-.201	.285	.004	.148	-.261	.086
Intraception	-.216	-.171	.309	-.382	-.110	-.462*	.338	-.238
Dominance	-.284	.006	.637*	-.059	-.196	-.341	.164	-.210
Abasement	-.060	-.116	-.215	.076	.539*	.352	-.205	-.066
Nurturance	.051	-.137	.255	.035	.248	.174	-.220	.007
Change	.108	.129	-.282	-.469*	-.074	-.299	.143	.006
Endurance	-.107	-.151	-.069	-.205	.213	.204	.128	-.077
Heterosexuality	.106	.079	.309	.209	-.033	.104	.011	.133
Aggression	-.128	-.240	.298	.157	-.316	-.211	-.221	-.160

*Statistically significant at .05 level

TABLE H-6.--Semantic Differential Self Ratings by OScAR Behavioral Categories

	Teach. Dir.	Teach. Enhanc.	Gen.Pos. Aff.	Aff. Neg.	Demand Mgt. Style	Benign Mgt. Style	Tot.St. Init.	Tot. Teacher Activity
Real: Evaluative	-.004	.095	.381	-.179	.174	.143	.039	.057
Real: Potency	.297	-.218	.077	.459*	.084	.179	-.371	.241
Ideal: Evaluative	.188	.147	-.013	.235	.217	.396*	-.010	.266
Ideal: Potency	.055	-.114	-.257	-.029	-.186	-.142	-.250	-.008

*Statistically significant at .05 level

TABLE H-7.--Teacher Practices Questionnaire by Teacher Behavioral Categories

	Teach. Dir.	Teach. Enhanc.	Gen.Pos. Aff.	Aff. Neg.	Demand Mgt. Style	Benign Mgt. Style	Tot.St. Init.	Tot. Teacher Activity
Content Didactic	.387	-.166	-.571*	.690*	.123	.433*	-.374	.322
Content Discovery	-.087	-.355	.083	.168	-.145	-.007	-.304	-.131
Student Didactic	-.163	-.081	-.151	.336	.409*	.350	-.490*	-.183
Student Discovery	-.292	.031	-.158	.088	.100	.034	-.295	-.276
Social Didactic	.197	-.081	-.504*	.612*	.023	.357	-.182	.197
Social Discovery	-.062	-.096	-.324	.162	-.112	.100	-.190	-.067

*Statistically significant at .05 level

TABLE H-8.--Teacher Opinionnaire by Teacher Behavioral Categories

	Teach. Dir.	Teach. Enhanc.	Pos Affect.	Aff. Neg.	Demand Mgt. Style	Benign Mgt. Style	Tot.St. Init.	Tot. Teacher Activity
Learning	-.105	.148	-.127	.137	-.012	.090	-.017	-.056
Mental Health	-.068	-.154	-.032	.038	.179	.123	-.305	-.092
Group Process	.121	.100	-.199	-.063	.170	.080	.031	.071
Development	.138	-.031	.304	-.145	-.375	-.322	.435*	.166

*Statistically significant at .05 level

TABLE H-9.--Semantic Differential Educational Attitudes by Teacher Behavioral Categories

	Teach. Dir.	Teach. Enhanc.	Pos. Affect	Aff. Neg.	Demand Mgt. Style	Benign Mgt. Style	Tot.St. Init.	Tot. Teacher Activity
Child: Evaluative	.044	-.077	.321	-.324	-.156	.078	.143	.022
Child: Potency	.409*	-.431*	.011	.039	.028	-.112	-.187	.306
School: Evaluative	.525*	-.184	-.051	.174	-.024	.224	.207	.526*
School: Potency	.058	-.320	.054	-.166	-.073	.082	-.037	-.008
Teacher: Evaluative	.335	-.426*	.180	.277	.018	.129	-.005	.285
Teacher: Potency	.174	.079	-.089	-.151	-.005	.170	-.351	.090
Prob. Child: Evaluative	-.236	-.149	.174	-.174	-.243	-.194	-.019	-.253
Prob. Child: Potency	.086	.092	-.002	.068	.159	.084	.168	.172
Mental Health: Eval.	-.039	.088	.339	-.102	-.298	-.122	.196	.012
Mental Health: Potency	.041	.214	.053	.024	.390	.390	-.189	.097

*Statistically significant at .05 level

TABLE H-10.--Edwards Personal Preference Inventory by Behavior Problem Checklist

	Conduct Problem	Personality Problem	Inadequate Immature
Content Didactic	-.057	-.167	-.017
Content Discovery	-.128	-.519*	.264
Student Didactic	-.023	-.007	.064
Student Discovery	-.037	-.105	.181
Social N Didactic	-.099	.032	-.072
Social N Discovery	-.091	-.165	.134

*Statistically significant at .05 level

TABLE H-11.--Teacher Practices Questionnaire by Semantic Differential Ratings of Target Children

	Evaluative	Potency
Content Didactic	.05	.01
Content Discovery	.15	.04
Student Didactic	.15	.02
Student Discovery	.17	.02
Social N Didactic	.07	-.01
Social N Discovery	.08	.02

TABLE H-12.--Teacher Opinionnaire by Behavior Problem Checklist

	Conduct Problem	Personality Problem	Inadequate Immature
Learning	.358	.208	.314
Mental Health	-.416*	-.321	-.352
Group Process	-.070	-.218	-.356
Development	.245	.404*	.451*

*Statistically significant at .05 level

TABLE H-13.--Teacher Opinionnaire by Semantic Differential Ratings of Target Children

	Focus Child: Evaluative	Focus Child: Potency
Learning	-.270	.186
Mental Health	.185	-.085
Group Process	.041	-.269
Development	.007	.167

TABLE H-14.--Semantic Differential Educational Attitudes by Behavior Problem Checklist

	Conduct Problem	Personality Problem	Inadequate Immature
Children: Evaluative	.155	.105	.270
Children: Potency	.411*	.034	.352
School: Evaluative	.174	.111	.402*
School: Potency	.240	.106	.193
Teachers: Evaluative	.198	.167	.505*
Teachers: Potency	.201	.050	-.093
Problem Children: Eval.	-.022	.274	.179
Problem Children: Pot.	.365	.205	.331
Mental Health: Eval.	.037	.026	.283
Mental Health: Pot.	.518*	.173	.191

*Statistically significant at .05 level

TABLE H-15.--Semantic Differential Educational Attitudes by Semantic Differential Ratings of Target Children

	Evaluative	Potency
Children: Evaluative	.051	-.016
Children: Potency	-.441*	.334
School: Evaluative	.011	.323
School: Potency	-.232	.013
Teachers: Evaluative	.018	.282
Teachers: Potency	-.183	-.211
Prob. Children: Eval.	.190	-.033
Prob. Children: Pot.	-.216	.610*
Mental Health: Eval.	.069	.268
Mental Health: Pot.	-.420*	.297

*Statistically significant at .05 level

A P P E N D I X I

OTHER CORRELATIONAL TABLES

TABLE I-1.--Edwards Personal Preference Schedule by Semantic Differential, Educational Attitudes

	Ch. Eval.	Ch. Pot.	Sch. Eval.	Sch. Pot.	Teach. Eval.	Teach. Pot.	Prob.Ch. Eval.	Prob.Ch. Pot.	MH Eval.	MH Pot.
Consistency	.20	.11	-.13	-.17	-.21	.29	-.04	-.13	.07	.38
Achievement	.20	-.25	-.11	-.24	-.34	.05	.24	-.05	.20	-.03
Deference	-.15	-.03	.12	.07	.12	-.22	-.01	-.25	-.59*	-.32
Order	-.43*	.14	.13	-.03	.06	-.18	-.45*	-.02	-.46*	-.39
Exhibitionism	.03	-.15	-.20	-.19	-.31	.25	.26	-.28	.25	-.05
Autonomy	-.19	-.13	-.35	-.28	-.50*	.24	-.02	-.21	.13	-.08
Affiliation	.12	-.08	.08	-.03	.01	.20	-.21	-.01	-.08	.51*
Succorance	.13	.35	.23	.36	.31	.16	-.11	.53*	.24	.09
Intraception	.04	.18	-.09	.11	.10	.03	-.11	.04	.31	.23
Dominance	.04	-.10	.01	-.42*	.09	-.35	.28	.07	.37	-.88
Abasement	-.09	.31	.06	.34	.28	-.15	.24	.15	-.19	.88
Nurturance	.25	-.03	.09	.02	.12	.34	-.33	.00	.41*	.66
Change	.13	-.06	-.20	.13	-.25	.19	.06	-.38	-.38	-.20
Endurance	.30	-.41*	.17	.32	.10	-.26	-.10	-.14	-.41*	-.14
Heterosexuality	.22	.01	.24	-.14	.25	-.15	.34	.17	.19	-.06
Aggression	.09	.13	-.28	.08	-.18	.13	.01	.36	.08	-.41

*Statistically significant at .05 level

TABLE I-2.--Edwards Personal Preference Schedule by Teacher Practices Questionnaire

	Cont. Did.	Cont. Disc.	Stu Did.	Stu. Disc.	Soc. N Did.	Soc. N Disc.
Consistency	-.52*	-.11	-.36	-.16	-.65*	-.14
Achievement	-.33	-.06	-.26	-.06	-.21	-.26
Deference	.30	-.14	-.27	-.23	.33	-.11
Order	.46*	-.18	-.10	-.28	.49*	-.13
Exhibitionism	-.19	-.09	-.01	.15	-.06	.15
Autonomy	-.05	-.22	-.15	-.07	-.01	-.08
Affiliation	.10	.19	.18	.07	-.06	.09
Succorance	.34	.41*	.21	.40*	.20	.43*
Intraception	-.52*	-.22	.04	-.16	-.48*	-.12
Dominance	-.47*	.21	-.04	.23	-.39	-.10
Abasement	.32	.18	.47*	.22	.31	.20
Nurturance	-.15	.10	.39	.11	-.44*	.23
Change	-.07	-.37	-.36	-.24	-.13	-.16
Endurance	-.04	-.15	-.26	-.21	.06	.02
Heterosexuality	.04	.10	.10	-.03	.11	-.22
Aggression	-.01	.27	-.04	.04	.10	-.04

*Statistically significant at .05 level

TABLE I-3.--Edwards Personal Preference Schedule by Teacher Opinionnaire

	Learning	Mental Health	Group Process	Develop-ment
Consistency	.01	.04	-.29	.17
Achievement	-.12	.01	.04	.08
Deference	.03	.34	-.14	-.35
Order	-.20	.27	.22	-.31
Exhibitionism	-.14	-.17	.01	.39
Autonomy	-.13	-.15	.31	.08
Affiliation	-.05	.61*	-.26	-.55*
Succorance	.38	-.06	-.18	-.18
Intraception	-.21	-.18	.14	.34
Dominance	.01	.10	-.57*	.32
Abasement	.13	-.19	.25	-.09
Nurturance	-.01	.17	-.09	-.16
Change	-.05	-.24	-.34	.10
Endurance	.02	.19	-.13	-.15
Heterosexuality	-.02	-.30	.02	.40
Aggression	.16	-.28	.07	.12

*Statistically significant at .05 level

TABLE I-4.--Teacher Practices Questionnaire by Semantic Differential Self Rating

	Real Self Eval.	Real Self Pot.	Ideal Self Eval.	Ideal Self Pot.
Content Did.	-.43*	.28	-.15	.20
Content Disc.	-.21	.12	.10	.12
Student Did.	.05	.15	.41*	-.09
Student Disc.	-.13	-.16	.25	-.03
Social N Did.	-.45*	.08	-.28	.15
Social N Disc.	-.18	-.21	.21	-.04

*Statistically significant at .05 level

TABLE I-5.--Teacher Opinionnaire by Semantic Differential Self Rating

	Real Self Eval.	Real Self Pot.	Ideal Self Eval.	Ideal Self Pot.
Learning	-.04	.11	-.05	-.11
Mental Health	.13	.03	.33	.24
Group Process	-.54*	-.08	-.35	.08
Development	.32	-.12	-.08	-.26

*Statistically significant at .05 level

TABLE I-6.--Semantic Differential, Educational Attitudes by Semantic Differential, Self Rating

	Real Self Eval.	Real Self Pot.	Ideal Self Eval.	Ideal Self Pot.
Children: Eval.	.53*	-.03	.12	-.18
Children: Pot.	.02	.53*	-.15	.35
School: Eval.	.48*	.29	.22	.08
School: Pot.	-.03	-.10	-.31	-.11
Teachers: Eval.	.45*	.31	.13	-.16
Teachers: Pot.	.07	.22	.10	.21
Prob. Ch.: Eval.	.24	-.03	-.22	.12
Prob. Ch.: Pot.	-.17	.24	.04	.13
MH: Eval.	.45*	.01	.47*	-.05
MH: Pot.	.52*	.38	.56*	-.03

*Statistically significant at .05 level

TABLE I-7.--Teacher Practices Questionnaire by CASES

	Resisting Behavior	Integrative Behavior	Passive Withdrawal
Content Did.	.03	.04	-.05
Content Disc.	.29	.25	-.35
Student Did.	.11	.23	-.26
Student Disc	.54*	.15	-.35
Social N Did.	.10	-.01	-.03
Social N Disc.	.46*	.01	-.19

*Statistically significant at .05 level

TABLE I-8.--Teacher Opinionnaire by CASES

	Resisting Behavior	Integrative Behavior	Passive Withdrawal
Learning	.13	-.44*	.36
Mental Health	.11	.42	-.44*
Group Process	-.44*	-.05	.23
Development	.09	-.04	-.00

*Statistically significant at .05 level

TABLE I-9.--Edwards Personal Preference Schedule by CASES

	Resisting Behavior	Integrative Behavior	Passive Withdrawal
Consistency	-.07	.12	-.08
Achievement	.00	.04	-.04
Deference	.15	-.09	.02
Order	-.05	.04	-.02
Exhibitionism	.14	.34	-.37
Autonomy	-.27	.14	-.07
Affiliation	.15	.15	-.20
Succorance	.31	-.39	.24
Intraception	-.27	.15	-.03
Dominance	.19	.02	-.09
Abasement	.27	-.01	-.11
Nurturance	-.11	.08	-.03
Change	-.20	.15	-.06
Endurance	.20	-.31	.21
Heterosexuality	-.19	-.01	.08
Aggression	-.24	-.54*	.32

*Statistically significant at .05 level

TABLE I-10.--Semantic Differential, Self Rating by CASES

	Resisting Behavior	Integrative Behavior	Passive Withdrawal
Real Self: Evaluative	.19	-.09	.01
Real Self: Potency	-.37	.03	.12
Ideal Self: Evaluative	.19	.36	-.41*
Ideal Self: Potency	-.22	-.05	.14

*Statistically significant at .05 level

TABLE I-11.--Semantic Differential, Educational Attitudes by CASES

	Resisting Behavior	Integrative Behavior	Passive Withdrawal
Children: Eval.	-.08	-.15	.17
Children: Pot.	-.10	.12	-.07
School: Eval.	-.06	-.03	.05
School: Pot.	.12	-.48*	.40
Teachers: Eval.	.12	-.03	-.02
Teachers: Pot.	-.11	-.14	.17
Problem Children: Eval.	.35	.22	-.34
Problem Children: Pot.	-.11	-.36	.38
Mental Health: Eval.	.10	.01	-.05
Mental Health: Pot.	-.14	-.14	.19

*Statistically significant at .05 level

TABLE I-12.--OScAR Teacher Behavior Categories by CASES

	Resisting Behavior	Integrative Behavior	Passive Withdrawal
Teacher Directing	-.07	.16	-.12
Teacher Enhancing	.09	-.21	.16
Positive Affect	-.16	-.03	.08
Negative Affect	.09	.08	-.11
Demand Management Style	.26	-.13	.02
Benign Management Style	.28	-.09	-.03
Student Initiations	-.21	-.16	.23
Total Teacher Activity	.00	.07	-.06