

INFORMATION TO USERS

This material was produced from a microfilm copy of the original document. While the most advanced technological means to photograph and reproduce this document have been used, the quality is heavily dependent upon the quality of the original submitted.

The following explanation of techniques is provided to help you understand markings or patterns which may appear on this reproduction.

1. The sign or "target" for pages apparently lacking from the document photographed is "Missing Page(s)". If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting thru an image and duplicating adjacent pages to insure you complete continuity.
2. When an image on the film is obliterated with a large round black mark, it is an indication that the photographer suspected that the copy may have moved during exposure and thus cause a blurred image. You will find a good image of the page in the adjacent frame.
3. When a map, drawing or chart, etc., was part of the material being photographed the photographer followed a definite method in "sectioning" the material. It is customary to begin photoing at the upper left hand corner of a large sheet and to continue photoing from left to right in equal sections with a small overlap. If necessary, sectioning is continued again — beginning below the first row and continuing on until complete.
4. The majority of users indicate that the textual content is of greatest value, however, a somewhat higher quality reproduction could be made from "photographs" if essential to the understanding of the dissertation. Silver prints of "photographs" may be ordered at additional charge by writing the Order Department, giving the catalog number, title, author and specific pages you wish reproduced.
5. PLEASE NOTE: Some pages may have indistinct print. Filmed as received.

Xerox University Microfilms

300 North Zeeb Road
Ann Arbor, Michigan 48106

7817900

HAYES, TOME RAY
THE EFFECTS OF TRAINING IN INTERACTION
PROCESS ANALYSIS UPON THE ATTRIBUTIONS OF
INTERN TEACHERS TOWARD PUPILS.

THE UNIVERSITY OF OKLAHOMA, PH.D., 1978

University
Microfilms
International 300 N. ZEEB ROAD, ANN ARBOR, MI 48106

© 1978

TOME RAY HAYES

ALL RIGHTS RESERVED

THE UNIVERSITY OF OKLAHOMA
GRADUATE COLLEGE

THE EFFECTS OF TRAINING IN INTERACTION
PROCESS ANALYSIS UPON THE ATTRIBUTIONS
OF INTERN TEACHERS TOWARD PUPILS

A DISSERTATION
SUBMITTED TO THE GRADUATE FACULTY
in partial fulfillment of the requirements for the
degree of
DOCTOR OF PHILOSOPHY

BY
TOME RAY HAYES
Norman, Oklahoma

1978

THE EFFECTS OF TRAINING IN INTERACTION
PROCESS ANALYSIS UPON THE ATTRIBUTIONS
OF INTERN TEACHERS TOWARD PUPILS

APPROVED BY:

Gene Shephard
Mary Clare Pitt
Gene Quinton
Roy R. Wilson Jr.

DISSERTATION COMMITTEE

ACKNOWLEDGMENTS

It is with a sense of deep gratitude that I acknowledge the assistance and encouragement of the individuals who have made the completion of this study possible.

Dr. Gene D. Shepherd, Chairman of the doctoral committee and major professor, has made a great contribution not only to this study but to my life through his personal interest, involvement, and encouragement. Dr. Shepherd has shared his professional expertise but more than that he has shared himself. John Steinbeck wrote, "We are indeed lucky, if in this life we have as many as three great teachers". Dr. Shepherd has been for me a "great teacher". I offer him my deepest appreciation.

I am indebted to Dr. Mary Clare Petty, Dr. Gene Pingleton, and Dr. Roy Wilson, advisory committee members, for their assistance and encouragement through this study.

Appreciation is also expressed to the Norman Public Schools, Oklahoma City Public Schools, and Putnam City Public Schools for their cooperation and assistance in this research.

I acknowledge my thanksgiving to the Lord Jesus Christ for my wife, Gayle and for my sons, Paul and Brett. Their faith and love have been demonstrated through the support, encouragement, and assistance they have given me during this study.

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS.	iii
LIST OF TABLES.	vi
 Chapter	
I. INTRODUCTION.	1
Statement of the Problem.	4
Hypotheses.	4
Operational Definitions	6
Assumptions	8
Delimitations	8
Design of the Study	8
Instruments	11
Analysis of the Data.	12
Organization of the Subsequent Chapters	14
II. REVIEW OF LITERATURE.	15
Introduction.	15
Teacher Expectations and Pupil Characteristics.	15
Teacher Expectations and Attribution Theory	30
Cooperating Teachers' Influence upon Intern Teachers' Attitudes.	39
Interaction Process Analysis in Teacher Training	40
Summary	44
III. PRESENTATION AND ANALYSIS OF DATA	45
Presentation of Data.	45
Minnesota Teacher Attitude Inventory Data	45
VICS Exam Data.	46
Pupil Description Questionnaire Data.	47
Cooperating Teacher Pre and Post-ratings.	48
Intern and Cooperating Teachers' Pre-ratings.	53
Intern and Cooperating Teachers' Post-ratings	59
Intern Teachers' Pre and Post-ratings	67

Intern Teachers' Pre-ratings and Post-ratings by VICS Groups	74
Analysis of Data.	79
MTAI ANOVA Results.	79
PDQ ANOVA Results	81
PDQ Mann Whitney U Results.	85
Summary	86
IV. SUMMARY, DISCUSSION OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS	87
Summary	87
Discussion of Findings.	88
Conclusions	96
Interpretation.	97
Recommendations	98
REFERENCES.	99
APPENDIX A.	107
APPENDIX B.	111
APPENDIX C.	117
APPENDIX D.	118

LIST OF TABLES

Table	Page
1. MTAI Results	46
2. PDQ Ratings by Student Groups.	47
3. Distribution of PDQ Ratings.	48
4. Intern Teachers' Total D Scores.	56
5. Total D Scores Between Pre and Post-ratings. . . .	59
6. Analysis of Variance for Differences in Intern Teachers' Pre-Post MTAI Scores	80
7. Post PDQ ANOVA by Interns' Knowledge of VICS . . .	81
8. Achievement Factor ANOVA by Interns' Knowledge of VICS.	82
9. Personality Factor ANOVA by Interns' Knowledge of VICS.	83
10. Ability Factor ANOVA by Interns' Knowledge of VICS.	84

THE EFFECTS OF TRAINING IN INTERACTION
PROCESS ANALYSIS UPON THE ATTRIBUTIONS
OF INTERN TEACHERS TOWARD PUPILS

CHAPTER I

INTRODUCTION

Research studies into the effects of self-fulfilling prophecies or "Pygmalion Effects" which were hypothesized in work by Rosenthal and Jacobson (1968) have indicated that the expectations teachers hold toward their pupils may bias the learning opportunities and the achievement of the pupils. A teacher's expectations are formed through the processes of attribution that occur in all interpersonal relationships. These processes of attribution affect the perceptions of teachers and the expectations which are formed. These expectations may bias the patterns of verbal interaction that take place between the teacher and pupil. Research into the effects of teacher expectations has shown that the attributions teachers make concerning the abilities of pupils affect both the frequency and quality of teacher-pupil interactions in a learning encounter (Brophy & Good, 1968). The classroom interactions between the teacher and pupil become a part of the data in the attribution process thereby reinforcing or altering the perceptions and attributions of the

teacher toward the pupil. Previous research has more often focused on studying the effects of the teachers' expectations on pupil achievement and on the learning environment. Another area of research into the classroom interaction environment has investigated techniques of altering a teacher's verbal behavior patterns. Interaction Process Analysis research has been conducted for over 20 years with the results indicating that verbal behavioral changes do alter the classroom environment and affect pupil attitudes and achievement (Flanders, 1970). Recent research by Brophy and Good (1974) has linked teacher expectations and verbal behavior patterns of the teacher. Their research did not attempt to train teachers in interaction analysis but used descriptive techniques to study what occurred in the learning environment. Research into teacher expectancy effects have usually focused on altering the attributions of teachers concerning pupils through various methods. None of the research surveyed has attempted to manipulate the teachers' verbal behavior and study the effects of these changes in the verbal interaction environment on teachers' attributions toward pupils.

The teachers' verbal interaction with the pupil becomes a part of the attribution processes and this interaction and attribution work to reinforce each other. The attributions of the teacher toward a pupil affect the interaction and the interaction is perceived in terms of the expectations created by the teachers' attributions. Intervention directly into either of these areas has been attempted in previous research but none of the research surveyed has combined manipulation of the verbal classroom environment and assessed

possible changes created in the teacher's attributions toward pupils.

This study was designed to investigate the effects of altering the teacher's classroom verbal behavior through training teachers in interaction process analysis. If changes in teacher attributions toward pupils were affected by the knowledge and use of interaction analysis, then the development of teacher expectations may be alterable through training teachers to monitor and plan their verbal behaviors. To determine if changes occurring in teacher attributions were the result of altering teacher verbal behavior rather than the result of pupil changes due to other factors, it was important to have more than one teacher interacting with the same pupil. It was possible to study this within the elementary classroom with an intern teacher and cooperating teacher working with a class of pupils. Previous research has shown that the general attitudes of intern teachers tend to become more similar to their cooperating teachers' attitudes during their work together (Moskowitz, 1967; Price, 1961; Stoller, 1964; Yee, 1969). It was assumed that if these general teacher attitudes were influenced, that likewise attitudes toward individual pupils, that is, the expectations created by teacher attributions would also become more similar. This assumption is based upon research by Heider (1958) and Newcomb (1961) which has shown that individuals working in close association form similar attributions toward persons, objects, and events.

This study investigated the effects of the knowledge and use of interaction process analysis upon the attributions of intern teachers toward pupils. This study attempted to combine the findings

of research in interaction process analysis with the research findings in teacher expectation studies and attribution process toward pupils.

Statement of the Problem

Will training in Verbal Interaction Classification System of interaction process analysis used with a system of peer feedback affect pre-post differences in intern teachers' attitudes as measured by the Minnesota Teacher Attitude Inventory (MTAI) and will the size and direction of the attitude differences be related to the pre-test scores of cooperating and intern teachers' attitudes as measured by the MTAI? Will training in interaction process analysis (VICS) used with a system of peer feedback affect the attributions of intern teachers toward individual pupils as measured by the Pupil Differential Questionnaire.

Hypotheses

- H₁ There is no significant relationship between the difference in intern teachers' pre-test and post-test MTAI scores when the cooperating teachers' pre-test MTAI is greater than the intern teachers' pre-test MTAI and the intern teachers' knowledge of VICS is high.
- H₂ There is no significant relationship between the difference in intern teachers' pre-test and post-test MTAI scores when the cooperating teachers' pre-test MTAI score is greater than the intern teachers' pre-test MTAI and the intern teachers' knowledge of VICS is low.

- H₃ There is no significant relationship between the difference in intern teachers' pre-test and post-test MTAI scores when the cooperating teachers' score on pre-test MTAI is less than the intern teachers' pre-test MTAI and the intern teachers' knowledge of VICS is high.
- H₄ There is no significant relationship between the difference in intern teachers' pre-test and post-test MTAI scores when the cooperating teachers' score on pre-test MTAI is less than the intern teachers' pre-test MTAI and the intern teachers' knowledge of VICS is low.
- H₅ There is no significant relationship between the interns post-rating PDQ score and the interns' level of knowledge of VICS, high or low.
- H₆ There is no significant relationship between the change in score on the Achievement factor of intern teachers' PDQ pre-rating and post-rating when the intern teachers' knowledge of VICS is high.
- H₇ There is no significant relationship between the change in score on the Achievement factor of the intern teachers' PDQ pre-rating and post-rating when the intern teachers' knowledge of VICS is low.
- H₈ There is no significant relationship between the change in score on the Personality factor of the intern teachers' PDQ pre-rating and post-rating when the intern teachers' knowledge of VICS is high.
- H₉ There is no significant relationship between the change in score on the Personality factor of the intern teachers' PDQ

pre-rating and post-rating when the intern teachers' knowledge of VICS is low.

H₁₀ There is no significant relationship between the change in score on the Ability factor of the intern teachers' PDQ pre-rating and post-rating when the intern teachers' knowledge of VICS is high.

H₁₁ There is no significant relationship between the change in score on the Ability factor of the intern teachers' PDQ pre-rating and post-rating when the intern teachers' knowledge of VICS is low.

Operational Definitions

Interaction process analysis is the method of studying the verbal behaviors that occur between people, more specifically, in this study the verbal behaviors that occur between a teacher and a pupil or group of pupils.

The Verbal Interaction Categorization System (VICS) is a system of interaction process analysis developed by Edmund Admidon and Elizabeth Hunter (1969). It is patterned after the system of interaction process analysis which was developed by Ned Flanders (1960). In the VICS, verbal interaction in the classroom is coded by an observer. These codes are used for analyses of the teacher's patterns of verbal behavior.

Peer feedback is a small group discussion session in which lessons taught by intern teachers are critiqued by other interns who observed the lessons. The peer feedback used VICS as one of the methods of gathering observational data which was used in the

peer discussion sessions.

Acceptance pupils were identified by the cooperating teachers as the pupils they would choose to keep for the sheer joy of it. These pupils seem to be bright, hard-working, obedient, the kind of students that would appeal to most teachers (Brophy & Good, 1974, p. 138).

Concern pupils were identified by the cooperating teachers as the pupils toward whom they would devote all of their time and attention. Previous research has indicated that teachers actually do spend more time and effort working with these pupils (Silberman, 1971; Brophy & Good, 1972).

Unknown pupils were identified by the cooperating teachers as the pupils whom the teacher would not be prepared to talk about to a parent. Teachers had fewer contacts with these pupils and were basically indifferent toward them (Silberman, 1971).

Rejection pupils were identified by the cooperating teachers as the pupils they would be relieved to have removed from their classrooms. Previous research has indicated that "these pupils received more teacher criticism for their classroom behavior and work. . . the teachers rejected and avoided this group of students (Brophy & Good, 1974, p. 142).

Attributions are the attitudes and expectations that are formed in behavioral episodes. These attributions occur through the attribution process which is defined as the process of determining the causes and consequences of the behavior of self and others (Heider, 1958). Research into attributional processes have indicated that

both the expectation of behaviors and the perception of behaviors are influenced by whether the individual is a spectator or participant in the behavioral sequence (Jones & Nesbitt, 1971). Attributions once established are altered through subsequent interactions but the perceptions of these subsequent interactions are in relation to previous attributions that were made.

Assumptions

1. The PDQ rating procedure and pupil selection process randomly affected the intern and cooperating teachers.
2. The PDQ ratings and MTAI scores represented the real attitudes of intern and cooperating teachers.
3. Changes in attributions toward students were the result of changes in the perception of pupil behaviors rather than the design of the categories used in the study.

Delimitations

1. The results of this study were limited to the effects of VICS interaction process analysis training used with intern teachers in observation of assigned and prescribed lessons.
2. This study was limited to intern teachers working with elementary age pupils.
3. The data collection procedures (PDQ) created increased awareness of the characteristics of the selected group of students.

Design of the Study

The study was conducted during the Fall Term 1977 with 26

students who were doing intern teaching in elementary education. The interns were assigned to eight elementary schools in either team, open-space, or self-contained classrooms. The cooperating teachers were assigned by the school system with the teacher's agreement.

The procedure involved instruction and use of interaction process analysis (VICS). The intern teachers received instruction in interaction process analysis using VICS during a week long instructional sequence prior to entering the cooperating teachers' classroom. Practice with the VICS was provided during the instructional sequences through analysis of peer group micro-teaching. The students also used the VICS in analysis of their own teaching and teaching done by their peers during their experience in elementary classrooms. These VICS analyses were discussed in peer group feedback sessions directed by the interns.

The data collection included pre-testing and post-testing of the attitudes of cooperating and intern teachers using the MTAI. The cooperating teachers were given the MTAI during the second week of the intern teaching semester. The cooperating teachers then completed the PDQ for two pupils in four categories for a total of eight pupils. The four categories were chosen from a study developed by Silberman (1969). The categories have been used in several other research studies which have indicated that teachers interact differently toward pupils in the four categories (Brophy & Good, 1972; Jenkins, 1972; Everston, Brophy & Good, 1973). The four categories were: acceptance, concern, unknown, and rejection. The study controlled for the possible effects of the selection procedures on the intern teachers in several ways. The selection instrument was administered

to the cooperating teachers in a separate session without the intern teachers. The cooperating teachers were requested not to discuss with the intern teachers the selection categories or to indicate which of the students they had selected. The selection instrument was not used with the interns and was not available to them.

The interns were also given the MTAI during the second week of the semester. The interns then completed the PDQ each week for the next two weeks for six pupils, four of which came from the eight selected by the cooperating teacher and two at random from the other pupils in their class. The PDQ was given to the interns again during the 9th and 10th weeks of the semester using 6 students as indicated above. The interns completed the PDQ during the final week of teaching for the eight pupils that were identified by the cooperating teacher. Interns took the MTAI and a test to determine their level of knowledge of the VICS during the week following completion of their intern teaching semester. The cooperating teachers took the MTAI and completed PDQ scales for the selected eight students during the final week of the intern teaching semester.

The schedule of data collection was:

Week of Sept. 15-22	MTAI for intern teachers. MTAI and PDQ for cooperating teachers on 8 of their pupils.
Week of Sept. 22	PDQ for intern teachers using 4 pupils selected from the cooperating teacher's PDQ ratings and 2 at random from the class.
Week of Sept. 29	PDQ for intern teachers for 6 pupils.
Week of Oct. 21	PDQ for intern teachers for 6 pupils.
Week of Oct. 28	PDQ for intern teachers for 6 pupils.

Week of Dec. 12	MTAI and PDQ for cooperating teachers on the 8 selected students.
Week of Dec. 19	MTAI, PDQ and VICS test for the intern teachers.

Instruments

The Minnesota Teacher Attitude Inventory (MTAI) is a general attitude questionnaire developed by Walter Cook, Carrol H. Leeds, and Robert Callis (1951). The questionnaire consists of 150 statements about pupil behaviors and teacher responsibilities. Respondants mark each item on a five point scale ranging from Strongly Agree (SA) to Strongly Disagree (SD). In this study 83 items were selected for use from the factor studies of the MTAI (Horn & Morrison, 1965; Yee & Fructer, 1971). The items were chosen from the factors which reflected the teachers' attitudes toward the pupil-teacher relationship in the classroom. Information on the factor analyses of the MTAI are given in Appendix A.

The Pupil Differential Descriptor was used to select the students to be rated by the cooperating and intern teachers. The selection of the pupils by the cooperating teachers was structured to identify four categories of pupils. Research designs developed by Silberman (1969) and used in other studies have indicated the presence of teacher behavior differences toward pupils depending upon the teachers' general attitudes toward the individual pupils. The four questions which were developed by Silberman were used in this study. The Pupil Differential Descriptor is given in Appendix C.

Ratings of students by the cooperating and intern teachers were completed using the Pupil Description Questionnaire (PDQ). The

PDQ is a semantic differential scale developed specifically for this study. The PDQ was developed to sample the attributions of teachers toward their pupils. The uses of semantic scales to sample concepts and attitudes have been investigated by Osgood, Suci, and Tannenbaum (1957). The PDQ was developed and factor analyses were conducted during the Summer Term 1977. Three factors on the PDQ were identified which approximated the factors of evaluation, potency, and activity which are recommended for semantic scale development by Osgood et al (1957). The three factors of the PDQ which were identified are:

<u>Achievement Factor</u>	<u>Ability Factor</u>	<u>Personality Factor</u>
Hard-working	High	Happy
Self-disciplined	Confident	Accepting
Conforming	Initiating	Close
Systematic	Quick	Eager

Data on the development of the PDQ and the factor studies are given in Appendix B.

Analysis of the Data

The data were analyzed in the following ways:

1. The MTAI was scored using the Yee and Kriewall Logical Scoring Key (1969). The interns were assigned to two groups relative to whether the cooperating teacher's MTAI score was greater than or less than the intern teacher's MTAI score. These two groups were further classified by the intern's score on the VICS test. The high VICS intern group included interns whose scores were $.25SD$ above the mean on the VICS test. The low VICS intern group included those interns whose scores were greater than $.25SD$ below the mean of the VICS test. Each intern group included 10

interns. Using these two variables, cooperating teacher vs. intern MTAI score and VICS knowledge score, a four cell comparison was formed. A two way analysis of variance was used to test differences which occurred in the intern teachers' scores on the MTAI post-test.

2. The intern teachers' post-rating PDQ was scored across the 12 scales for a total PDQ raw score. A one way analysis of variance was performed by the intern teachers level of knowledge of VICS.

3. The PDQ ratings were scored using the generalized distance score. The distance score (D) gives a measure which reflects the differences in perceptions of the same concept rated by different individuals or by the same individual on different occasions. The use of the D score with semantic scales is described and explained by Osgood et al (1957, p. 98). A D score was calculated on each of the three factors of the PDQ scale: achievement (D_1), ability (D_2), and personality (D_3). The sum of the factor D scores yielded a total D score for the 12 scales. Factor and total D scores were calculated to determine the differences between the cooperating teacher's and the intern teacher's perceptions of individual pupils. These factor and total D scores were calculated between the intern teachers' and cooperating teachers' pre-ratings and between their post-ratings. Factor and total D scores were also calculated for the intern teachers' pre-ratings vs. their post-ratings; for the high VICS intern

groups' pre-ratings vs. the low VICS intern groups' pre-ratings; for the high VICS intern groups' post-ratings vs. the low VICS intern groups' post-ratings.

- (1) A one way analysis of variance was performed on each factor of the intern teachers' pre to post factor D scores. The factor D scores were analyzed by the interns' level of knowledge of VICS (high VICS or low VICS).
- (2) A Mann Whitney U (MWU) statistic was used to analyze the total D scores calculated on the pre-ratings and the post-ratings of the interns and cooperating teachers.
- (3) A MWU statistic was used to analyze the total D scores calculated on the pre-ratings and the post-ratings of the high VICS and low VICS intern groups.
- (4) A MWU statistic was used to analyze the total D scores calculated on the high VICS interns' pre and post-ratings and the total D scores calculated on the low VICS interns' pre and post-ratings.

Organization of the Subsequent Chapters

The report of the study includes a review of literature pertinent to the study in Chapter II. The presentation of the data and the analysis of the data are presented in Chapter III with a discussion of the findings. Chapter IV contains a conclusion, and recommendations for further research.

CHAPTER II

REVIEW OF LITERATURE

Introduction

This chapter presents a review of the literature related to teacher expectations and the use of interaction process analysis in the training of intern teachers in four areas:

- (1) Teachers' expectations and pupils' characteristics.
- (2) The formation of teachers' expectations and the process of attribution.
- (3) The influence of cooperating teachers' attitudes upon the attitudes of intern teachers.
- (4) The development and use of interaction process analysis in teacher training.

Teacher Expectations and Pupil Characteristics

Research in teacher expectations and their impact upon pupil achievement, self-concept, and I.Q. have generated mixed results and interpretations. The implication of much of the research was that the effects of teacher expectations must be considered as a significant factor in the classroom environment (Adams and Cohen, 1976; Brophy & Good, 1971). The most controversial and famous research in expectancy effects was the Oak School experiment. This study was conducted by Rosenthal and Jacobson and was reported in

detail in Pygmalion in the Classroom (1968). This research indicated that an induced expectation for certain pupils which was the sole treatment of the experiment did in fact create a change in teacher expectation toward these pupils. The results indicated that the change that occurred in the selected pupils' score on the post-test measure was related to the expectations of the teacher. The results of this experiment generated debate and over 60 other attempts to verify teacher expectancy effects. The Pygmalion study has been attacked on methodological bases (Snow, 1969; Thorndike, 1968; Elashoff and Snow, 1971). Attempts to replicate the findings of Rosenthal and Jacobson have had mixed results. In a review of the research on expectancy, Rosenthal (1970) stated that in about one-third of the post-Pygmalion studies, positive expectancy effects have occurred. Brophy and Good (1974) stated that "although the findings of Pygmalion in the Classroom have yet to be replicated unambiguously. . .it would be inappropriate to dismiss the Pygmalion findings. . .since many other studies by many different investigators have unequivocally established the reality of expectation effects" (1974, p. 75).

The idea that teachers hold expectations for pupils had not been questioned by any of the studies, rather the research had been based upon the assumption that expectations were present. The studies sought to establish the bases upon which the expectations were formed and the effects which the expectations may have had upon the pupil and teacher behaviors. The research designs included both laboratory and classroom environments. The significance of

each of the time and environment variables will be stated in relation to the factors which were studied.

Teacher expectancy has been shown to occur across several factors which have been studied in isolation in the various studies. Stern and Keislar (1977) stated that the most important student attributes or characteristics which elicit differentiating teacher attitudes included level of ability or achievement, sex, race, socio-economic status, divergent speech patterns, and classroom behavior (p. 63). In addition to these factors, pupil attractiveness and name stereotyping have been shown to affect teacher attitudes and the expectancies. The organization and the review of the expectancy studies will look at the studies from the individual factors that were studied, the effects observed, and their implications.

The most numerous studies of teacher expectancy effects have been in the area of pupil ability. The studies using this factor have usually attempted to set up a teacher expectancy through fictitious psychological reports (Claiborne, 1969; Dusek, 1972; Fleming & Anttonen, 1971; Goldsmith & Fry, 1970; Jose & Cody, 1971; Pelligrini & Hicks, 1972; Rosenthal & Jacobson, 1968; Schrank, 1968, 1970). Most of these studies were replications or adaptations of Rosenthal and Jacobson's original Pygmalion design. Significant in the analysis of the results of these studies were the factors of the teacher's acceptance of the psychological report and the length of the studies. Several of the studies indicated that the teachers did not accept the psychological reports (Fleming & Anttonen, 1971; Goldsmith & Fry, 1970).

Jose and Cody (1971) concluded in their study that the teachers relied upon day to day living with the academic performance and behavior of children more than upon the results of any one test. In their study the teachers stated that they already knew their children and their backgrounds and therefore they knew what to expect (p. 40). In the Jose and Cody (1971) study 11 of the 18 teachers indicated that they did not believe the psychological reports. In a study conducted by Fleming and Anttonen their conclusion was that "teachers assess children, reject discrepant information, and operate on the basis of previously developed attitudes toward and knowledge about children and tests. . .so that day to day living with the academic performance and behavior of children provides more input than the results of an intelligence test administered on one given day" (1971, p. 251).

In two studies by Shrank (1968, 1970) the difference in the treatments was whether or not the teachers were told how the pupil groups were assigned. The outcome indicated that there were no expectancy effects in the second study when the teachers knew that the grouping was random. In the first study, however, where teachers "believed" the grouping to be by ability, evidences of expectancy were present.

In some of the studies of teacher expectations, the timing of the psychological reports was different from the original Pygmalion study. In these studies the treatment did not begin until second semester. Presumably the teachers already knew the students through classroom performance and some expectations had already been formed

(Claiborne, 1969; Jose and Cody, 1971). These studies failed to produce data that supported teacher expectation effects.

Another group of studies that deviated from the Pygmalion design involved short-term tutorial studies (Beez, 1968; Michenbaum, Bowers, and Ross, 1969; Pelligrini & Hicks, 1972). These studies were similar to Pygmalion in that the tutors had not had contact with the subjects prior to the treatment. The expectancy that was induced by the experimenter's report was the basis on which tutors judged the subjects. These were short term studies which made it less likely that pupils' performance would over-ride the psychological report that the tutors' were given. The results of this group of tutorial studies were all in positive directions toward expectancy effects but few reached significance. Two interpretations of these findings included the fact that there was a lack of instructional time for expectancy to produce significant differences in score; or, that the induced expectancy had affected the attitudes and teaching behaviors of the tutors. The last interpretation was supported by some of the research which indicated that the expectancy effects influenced the inter-action between teacher and pupil so that the tutors treated the pupils differentially (Beez, 1968; Brown, 1970; Carter, 1969). These studies reported that the tutors actually attempted fewer learning tasks with low-expectancy students. They did not report expectancy effects in terms of actual pupil score but the reports indicated that the tutors interacted with the pupils in relation to the expectations that were set up by the psychological reports.

A third group of studies which involved manipulation of ability expectations were conducted in non-school contexts. These studies were consistent in their results and supported expectancy effects. Shrank (1968) worked with Air Force instructors and recruits. He manipulated the teachers' expectations for the classroom groups and found significant differences in the highest class and lowest class group performances even though they were grouped randomly. Burnham (1968) manipulated teachers' expectations for children taking swimming instruction and found significant differences in the group performance. Johnson (1970) used a marble-dropping experiment with induced expectancy. He found definite expectancy effects were indicated. A similar experiment by Dusek (1972) found that the expectancy effects occurred for only one of the four groups. These four studies differed significantly in time and context. They were generally positive in their expectancy manipulations and expectancy effects.

The three groups of psychological manipulation studies have shown results which are mixed. Several implications from the psychological manipulation studies can be indicated. First, the formation of an expectation by a teacher or tutor depended upon the credibility of the source of the psychological report that teachers received. If the report was too discrepant from previous expectations then the effects may have been mediated by these previously formed expectations. Secondly, the teachers' expectations may have been mediated by pupils' performances over a period of time. Initial expectancy, however, was a powerful factor in

short-term teaching affecting the teacher's behavior as well as the pupil's performance. Thirdly, the expectancy effect as hypothesized in Pygmalion did not occur in all situations, but in the absence of conflicting previously formed expectations, the trend was in a positive direction toward the expectancy.

The "naturalistic" group of studies to be reported on teacher expectancy were different from the psychological manipulation studies in three significant ways. First, these studies were descriptive in design rather than experimental. They did not attempt to change the teachers' expectancies but rather investigated the relationship between the teachers' expectancies and the performance of the pupil. Secondly, these studies sampled expectancies which were already developed either in terms of general attitudes or for specific children within the classroom environment. Good and Brophy (1973) concluded that naturalistic studies using teachers' real expectancies have usually provided positive results in terms of expectancy effects (p. 72). Thirdly, the expectancies which teachers naturally develop were sometimes difficult to sample due to ethical considerations. Negative expectancies are usually hard for teachers to verbalize due to professional feelings that teachers should treat everyone equally. Brophy and Good (1974) point out that many writers feel that articulation of teacher expectancies leads to labeling students, but that they feel that the expectancies already exist and "can become potentially helpful if they are flexible so that they change to keep in step with changes in the student" (p. 74).

The naturalistic studies have investigated gender differences

and other pupil characteristics upon which teachers' expectancies are formed. Studies dealing with teacher expectations as related to student's gender have generally been designed to determine if boys were discriminated against in elementary schools. This gender research dates back for over 50 years and the consistent indication has been that something is creating problems for males within the school environment (Ayers, 1969). Two recent studies are particularly noteworthy. Palardy (1969) studied the reading achievement of boys in the first grade in relation to the teachers' expectations that boys could learn to read as easily as girls. On a lengthy questionnaire one question was related to the teachers' expectations toward boys' reading abilities. In the classrooms in which the teacher expressed the belief that boys would not learn to read as well as girls there were significant differences in their reading achievement. These differences were not found in classrooms in which the teacher expected boys to learn to read as well as the girls (p. 370). Gender expectations were also investigated by Doyle, Hancock, and Kifer (1971). Their study asked first grade teachers to estimate the I.Q. of students within their classrooms. The teachers consistently over-estimated the I.Q. scores of the girls and under-estimated the I.Q. scores of the boys. These estimates were related to the subsequent reading achievement of the students with the girls showing higher reading achievement. The scores on the I.Q. tests showed that no ability differences existed between the girls and boys. The classes in which teachers generally over-estimated all the students' I.Q. scores showed higher class

achievement than the classes in which teachers had under-estimated the groups' I.Q. scores. These two studies indicated that teacher expectations formed on the basis of the gender of the student tended to favor the girls. Similar results have been found in studies of grading practices with the boys receiving lower grades than the girls for similar achievement (McCandless, Roberts, Staines, 1972; Peck, 1971; Carter, 1952). Gender expectations also have shown a relationship to disciplinary problems. The expectation of more frequent disciplinary interactions for males has been studied by numerous researchers (Brophy & Good, 1970; Meyer & Thompson, 1959; Lipzsit & Gold, 1959). These studies showed that the majority of the teachers' criticisms of behavior were directed at the boys. The boys were also shown to be more involved in the total environment so that they received more teacher praise than the girls (Silberman, 1969, 1970; Brophy & Good, 1970). The differences in the attitude of the teacher indicated in statements of criticism was investigated by Waetjen (1962). Waetjen (1962) found that criticism toward boys was more likely to be harsh or angry, but toward girls the tone was more conversational (p. 12). These studies tended to support the idea that there were differences in teacher expectations based upon pupil gender, with teachers holding more negative attitudes toward boys. Brophy & Good (1974) concluded in their review of the studies on gender expectancy that:

the teacher's gender as such appeared to be largely irrelevant as an explanation for the well-documented student gender differences that have been reported . . . the main explanation for student gender differences in school achievement lies in the degree of correspondence between the role of the student as defined by the school and the gender roles for boys and girls as defined by society (p. 238).

The expectancies related to gender can be summarized by the statement that teachers expected lower achievement and greater behavioral problems from boys in the classroom.

Two expectancy factors which were closely related to pupil gender differences were pupil attractiveness and first name stereotyping. Several studies have indicated that a pupil's perceived physical attractiveness may contribute to a teacher's expectation of success academically as well as socially (Ross & Salvia, 1975; Clifford and Walster, 1973; Salvia, Algozzine & Sheene, 1977). The effects of perceived attractiveness included expectancies of anti-social behavior, dishonesty, less peer acceptance, less peer popularity and less future success in job and marriage for the less attractive pupils. Those pupils who were rated as being more attractive were consistently rated higher both academically and socially than those of the unattractive group (Dion, Berschied & Walster, 1972, p. 290). In a study by Clifford and Walster (1971), teachers also assumed that the more attractive boys and girls had higher I.Q. scores than the less attractive group. First name stereotyping was investigated by Garwood (1976), McDavid and Harrari (1973). These studies indicated that teachers' expectations may be formed in terms of the first names of children. Garwood (1976) concluded that there is now sufficient evidence indicating that name stereotyping is one aspect of expectancy behavior (p. 484).

Expectancy effects have also been studied in relation to the two factors of Socio-Economic status (SES) and race. These studies have found that teacher expectations varied in relation to

both SES and race of students (Gottlieb, 1965; Rubovits & Maehr, 1973; Leacock, 1969; Yee, 1968). Rist (1970) found in a longitudinal study that teachers reacted to students differentially based upon the placement of children, which was done by SES, more than they reacted to the actual performance of the child. Yee (1968) found that SES was the most important variable determining teacher attitudes toward students. Leacock (1969) studied both pupil race as well as SES. He found that the black students who were viewed negatively by the teacher showed a lower reading achievement level than the non-black students even though the black students had higher I.Q. scores (p. 101). In a study by Rubovits and Maehr (1973) students in a micro-teaching lab were treated differentially by the teacher depending upon the student's race. These studies and other studies supported the importance of SES and race as significant factors in teacher expectations for students.

The studies in teacher expectations have begun with an assumption that expectations are a naturally occurring process. The identification of the factors that may contribute to the expectations teachers hold were of interest in the research studies cited, but more important to each of these were the effects of the expectation upon pupil achievement and teacher behaviors. Since teachers do hold expectations, how do these affect the classroom?

Several studies have shown that the teacher's expectancies are communicated to observers and pupils by the teacher's behaviors within the classroom. These behaviors may reinforce the expectancies and the expectancies may mediate the teachers' perception of the

classroom events. Several of the studies already mentioned were designed to investigate how an expectancy affected a teacher's behavior. The studies reviewed which did not specifically observe and record the teacher's behavior often assumed "that the behavior of the teachers was different for those students for whom they held higher expectancy" (Rosenthal & Jacobson, 1968; Palardy, 1969). Jose and Cody (1971) reported that in their study there were few differences in the teachers' overt behaviors due to expectancy (p. 45). As mentioned earlier, however, the teachers' acceptance of the experimental manipulation in this study was very low. The studies which have specifically investigated the teachers' behaviors and their relationship to teacher expectations have found some significant relationships (Brophy & Good, 1970, 1972; Everston, Brophy & Good, 1973; Jackson & Lahaderne, 1967; Jackson, Silberman & Wolfson, 1969; Silberman, 1969, 1971). Jackson (1968) reported that the classroom contacts of students varied from 5 interactions per hour for some students up to 120 interactions per hour for other students. The questions of which pupils received the teacher's attention and the relationship of teacher-pupil interaction to the expectations of the teacher have been investigated in several studies. These studies have asked teachers to identify certain students within the classroom and then the researcher coded the teacher-pupil interactions that occurred. Jackson et al (1969) asked teachers to list the names of the students in their classroom and then to describe those students who were named first and last. Adapting this design Silberman (1969) asked teachers to identify certain pupils. These

pupils were then classified as rejection, concern, indifference, or acceptance pupils. Silberman found that the teachers' contacts were very different for these groups of students (p. 403). Brophy and Good used the same procedure in several studies (1970a, 1970b, 1971, 1973). They have confirmed that differential behaviors of teachers occurred and were related to the expectancies that teachers held for their students. A summary of the findings of Silberman (1969, 1971) and Brophy and Good (1970a, 1970b, 1971, 1973) studies indicated that "teachers systematically though not necessarily deliberately or consciously, treat one group of students more favorably than others" (Brophy & Good, 1970, p. 367). The findings of these classroom observational studies showed that teachers' behaviors varied toward students in both quantity and quality of inter-actions. Students who were perceived as high in ability were twice as likely to receive teacher praise for correct answers and received 67% less criticism for wrong answers; they received more work-related contacts and less behavioral related contacts; they received more opportunity to clarify or give a second answer to an incorrectly answered question (Brophy & Good, 1970a). Rowe (1969) found that teachers waited longer for responses by students perceived as high in ability. Students classified in Silberman's study as the rejection pupils received frequent contact with the teacher but most often in disciplinary or negative feedback situations (Silberman, 1969, p. 404). Brophy and Good (1972) confirmed these findings and felt that "these rejection students could do nothing right" (p. 620).

Similar expectancies and teacher behavioral patterns were

found in other studies that were not specifically observational. In Beez (1968) and Rubovits and Mæhr (1973) tutors working with students presented the lesson materials differently to the students. The tutors generally favored the high students. Less material was presented to the low students, with more emphasis on review; less use of praise; and more non-lesson related teacher-pupil interactions. A racial bias was also observed in Rubovits and Mæhr (1973) and Rist (1970). The teacher or tutor interacted more frequently and more positively to the white "fast-learners" and felt that discipline and control was most important for the black students (Rist, 1970, p. 450).

In the interactions that occur in the classroom the pupil is actively involved. Therefore, as the teachers differentially treated students, these teacher behaviors generated differential pupil responses. "Our expectations do affect the way we behave and this in turn affects how other people respond . . . teachers tend to behave in ways that make their expectations come true" (Brophy & Good, 1972, p. 73). The interactive nature of the teacher-pupil relationship has been emphasized in several studies which focused on the students' influence on the pattern of interactions (Klein, 1971; Noble & Nolan, 1976). These studies concluded that the pupils' responses to teachers' behaviors may be a causal factor in the subsequent teacher behaviors. This emphasis was consistent with the findings of Brophy and Good (1972) and Yee and Gage (1968) that the pupils' response was a significant variable in the classroom behavior of teachers. Yee stated that "the action of one person is a response

to that of a second person whose next response is in turn influenced by that of the first. The actions of each are at once the result of, and a cause of the actions of the other" (1968, p. 116). Teacher and pupil influence is inter-active and inter-dependent; however, studies of the teachers' control of the interaction environment have been consistent in their findings that teachers dominate the pattern of interaction (Adams & Biddle, 1970; Flanders, 1970). Brophy and Good conceptualized that the sequence of differential teacher expectations and differential teacher behaviors followed this pattern (1970, p. 368).

(a) The teacher forms differential expectations for student performance.

(b) The teacher treats the child differently in accordance with these differential expectations.

(c) The children respond differently to the teacher because they are being treated differently.

(d) In responding to the teacher each child tends to exhibit behavior which complements and reinforces the teacher's particular expectations for him.

(e) As a result, the general academic performance of some children will be enhanced, while that of others will be depressed, with changes being in the direction of teacher expectations.

(f) These effects will show up in achievement tests given at the end of the year providing support for the self-fulfilling prophecy notion.

This conceptualization is explanatory but not sufficient in that it

does not explain the process by which the teacher's expectations are formed and the potential effects of behavior which is contradictory to the teacher's expectation.

The effects of the teacher's expectations not only affected the behavior of the teacher but also the behavior of peers toward pupils. Silberman (1969) noted that "these (teacher) actions not only communicate to students the regard in which they are held . . . but they also guide the perception of and behavior toward these students by their peers" (p. 404). In another study it was concluded that "not only do students evaluate themselves as they perceived their teacher evaluated them but that their perceptions of their teacher's evaluation of them were, in general terms, accurate" (Curtis & Altmann, 1977, p. 24).

The literature reviewed does not contain many positive results attributed to teacher expectations, but these same kinds of expectations are found in all interpersonal relationships. Therefore, the existence of teacher expectations is not a negative behavioral characteristic of teachers. The cumulative effects, however, of teacher expectancies may be more potent because of the daily reinforcement of these expectancies which take place in the classroom.

Teacher Expectations and Attribution Theory

Research in teacher expectations and its effects on pupils has led to investigations of how expectancies are formed and how they are changed. Expectancy is one of the results of the processes of attribution that occur in all interpersonal encounters. The historical development of attribution theory began with the work of Heider (1958).

Heider called his theory of attribution "common sense" psychology. Heider stated that "man perceives the occurrence of a particular event and he searches for the causal locus of that event either external or internal" (1958, p. 12). Wrightsman (1973) stated that in social situations each of us is constantly trying to understand the behaviors of others and to infer from these behaviors the underlying characteristics of the other person. The review of literature in attribution theory will be limited to research studies in educational environments. Three areas of attribution theory that are relevant to teacher expectancy are: dispositional and situational attribution; actor-observer perception differences; and attribution balance principles.

Attribution theory is closely related to expectancy in the area of dispositional and situational explanations of causation. In any event or experience the person who is involved attributes the event either to characteristics of the person (self) or to the situation. In an inter-personal event each of the individuals attributes the causes of a behavior to his own disposition or to the disposition of the other person or to the situation. The choice of the locus of causation is generally toward personal factors rather than toward the situation (McArthur, 1972, p. 180). If the characteristics of the situation are known, then any deviation from the expected cause and effect pattern is usually attributed to the characteristics or disposition of the individual. Kelly (1967) pointed out that four factors: distinctiveness, consistency over time, consistency over modality, and consensus are the bases upon which external attributions

are made (p. 67). Therefore, a person attributes the cause of an event to dispositional characteristics unless there is distinctiveness (the situation is discreet), consistency over time (the response of the person is the same in this situation repeatedly), and consensus (other people respond similarly). A dispositional attribution is therefore more likely than a situational attribution. "If the person can find situational cause, so be it, if not . . . then the behavior is attributed to the disposition of the person" (Taylor and Kiovmahi, 1976, p. 405). Beckman stated that "teachers would be more likely to attribute a child's performance to dispositional characteristics of the child rather than to themselves" (1976, p. 212). Research has indicated that dispositional attribution will often dominate even in circumstances which might indicate external causation. McArthur stated "one is hard pressed to come up with any logical explanation of this proclivity for person attribution rather than (attribution) to ferocious dogs, difficult sentences . . . people look inside the organism for causes of behavior rather than to external stimuli". (1972, p. 192). The dispositional and situational attributions of causation have been shown to include four factors. Dispositional causation includes ability and effort, internal characteristics of the person. Situational causation includes the characteristics of luck and task difficulty. These four factors are classified as being either stable; ability and task difficulty; or unstable, effort and luck. An attribution toward the dispositional characteristics of the individual may be to the stable characteristic of ability or to the unstable characteristic of effort. An attribution toward the

situation may be to a stable characteristic, task difficulty, or the unstable characteristic of luck. Research in the attributions of teachers toward the performance of their pupils has shown the relationship of teacher expectancy and attributions.

In a study by Johnson, Feigenbaum, and Weiby (1964) teachers received biased feedback about pupil performance on math lessons. Four conditions were established so that one student declined in performance, one student improved, a third performed low throughout, the fourth excelled throughout. The attributions of the teachers toward the students were dispositional except for the one student who improved. The attribution toward the student who improved was situational. He improved because of the teacher's teaching ability. The pupils who began the lessons with poor performance were attributed to have less ability. Therefore, continued poor performance throughout the lesson was not negative for these lower ability pupils. The pupils who performed at a high level on the initial problems were expected to perform well throughout the lessons. The low pupils who excelled on the later lessons did so because of the teacher, while the high pupils who declined in performance on later lessons were poorly motivated. The actual number of problems that were correctly worked by the pupils was the same for the two groups who changed in their performance. The attributions toward these pupils were not related to the number of problems worked correctly but to the expectation of performance. In a series of studies by Wiener (1971, 1972) he concluded that teachers operated on a dispositional basis in which they internally attributed toward students on the basis of "can"

and "try". The pupils who "can" have ability and intelligence. He stated "most punishment is given when an individual can succeed but fails because of an inferred absence of trying" (1972, p. 203). The pupil who is perceived as trying is rewarded more and punished less regardless of ability; but the low ability-high effort pupil receives more reward than the high ability-high effort pupil (Wiener, 1971). Valle and Frieze (1976) pointed out in their study that a dispositional attribution toward an individual was resistant to change. Changes in expectancy were the result of initial performance plus most recent performance only when that most recent performance was attributed to the stable factors of ability and task difficulty rather than to the unstable factors of luck and effort (p. 580). They pointed out that the more discrepant the pupils performance was from the teacher's expectation, the more likely it was to be attributed to the unstable factors of luck or effort. Expected results tended to be attributed to ability while unexpected results were attributed to luck. Valle and Frieze concluded that

a person who is initially expected to do poorly will find it difficult to change these low expectations. If the individual is successful, this will be attributed to unstable traits and will have little influence on later expectations. Therefore, the individual expected to do poorly must not only perform well, but must also make the performance appear to be due to a stable trait in order to change the perceiver's expectations (1976, p. 586).

Amos (1976) stated that the teachers in her study based their attributions toward children on the performance of the child not upon dispositional characteristics of the child (p. 69). Friend and Wood (1973) however, found stereotypical attributions in their

study. Toward the black students the teachers attributed less ability and more luck in success situations; the lower class whites had lower ability but showed more effort; the middle class whites had higher ability but did not try. They concluded that "situation factors were less potent than social class and race (dispositional) factors" (p. 344).

Another area of attribution theory which has been related to expectancy effects is the difference in perception of a situation by an actor or by an observer. In the classroom, teachers form expectations and make attributions in which they simultaneously are both an actor and an observer. Jones and Nesbitt (1973) proposed that attributions about the causes of behavior differ, depending on whether a person is describing his own or another person's behavior. The egotistic response to a situation is very powerful when the individual is the actor. Johnson, Friegebenbaum, and Weiby (1964) found that success by pupils was self-attributed by the teacher, whereas failure was attributed to the pupil. Observers in this same study made more attributions toward the situation (the teacher's teaching ability) rather than to the individual pupil. They perceived the teacher as sharing the responsibility for pupil failure (p. 237). When the teachers in this study admitted a partial responsibility for the pupil's failure, they cited the experimental conditions as creating the poor teaching situation (p. 246). This ego-defensive attribution has been demonstrated in other studies. Gurwitz and Panciera in their study stated that "subjects tended to view their own behavior as constrained by the situation, while they

saw others' behavior as indicative of personal dispositions" (1975, p. 531). Cialdew and Mirels reported that subjects made attributions which confirmed the individual's feelings of personal effectiveness (p. 402).

When children and teachers interact in the classroom, the pattern of the child's performance affects not only the teacher's beliefs about the pupil's competency but also her beliefs concerning the causal source of the child's performance and the teacher's sentiments toward him . . . the child performs poorly, the teacher concludes that his motivation is low, and dispenses negative stimuli in the form of negative remarks or actions. These stimuli from the teacher inhibit the child's performance and therefore the child performs more poorly than his capabilities. In turn, his performance is downgraded by the teacher (Beckman, 1970, p. 81).

The teacher makes ego-defensive attributions as an actor in the classroom which affect the pupil's perception of his own behavior. As an observer, the teacher must assess the pupil's characteristics for purposes of planning for student growth. Research in actor-observer differences have indicated that the teacher as an actor is ego-involved and may not be able to make "objective" assessment in terms of pupils.

A third area of attribution theory which was relevant to this study involved the "balance model" of Heider (1958) and the "attraction model" of Newcomb (1953). One of the basic concepts in attribution theory is the balance principle. Heider (1958) proposed that attitudinal similarity induces liking; liking induces perceived attitudinal similarity; and anything connected with a person tends to be evaluated as a unit. The balance model implies that the individual's negative attitudes in an interpersonal interaction

situation must be balanced, that is, either 2 negatives or no negatives. Therefore, with two individuals interacting in a balanced situation there are two possibilities. They may have three positive attitudes (+++) or one positive and two negative attitudes (+--) about any event, object, or person. In an unbalanced interaction the individuals may have three negative attitudes (---) or two positive and one negative (++-). The unbalanced interaction must be resolved by changes in one person's attitudes or the interaction will be stopped. Any imbalance in the negative attitudes causes an attitude crisis which forces a change. Richey and Richey (1975) applied the balance model to the classroom. They gave examples of the relationships of the pupil and teacher in negative (-) and positive (+) attitude interactions. They pointed out that in the classroom following conditions may appear. The teacher can like a student (+) as long as that student likes the teacher (+) and does his work (+). Three positives (+++) create a balanced condition.

If the teacher likes the student (+) and the student likes the teacher (+) but the student does not work (-), an imbalance (++-) is created. The teacher's response is to create a way to get the student to work thereby restoring the balance; or, to like the student less (-) thereby creating a negative balance (-+-) condition. If the student dislikes the teacher (-) but the student does his work (+), and the teacher likes the student (+) then an imbalance is created. The changes to establish a balance may occur in the pupil as he begins to like the teacher (+++); or, the teacher may begin to dislike the pupil's work (he could do better); or to dislike the pupil (-+-).

The "attraction model" is similar to the balance model but goes further in explanation of the forces which create attitude changes. Studies of attitude manipulation have not been used in elementary classrooms due to ethical considerations, but studies with adult populations have been conducted to examine the relationship of attitude similarity and interpersonal relations. Newcomb stated that "the more frequently persons interact, the degree of their liking for one another will increase" (1953, p. 393). He further stated that three choices are possible in conflicting interpersonal attraction.

- (1) accept the conflict as a part of the environment.

- (2) achieve balance by influence or change in the other person.

- (3) achieve balance through self-modification.

Newcomb stated that in groups that are required to operate together, the interaction will be greater in both positive and negative feeling states than in neutral states (1953, p. 395). Two studies of the attraction model concluded that the more exposure persons have to one another, the more attitudinal similarity and liking occurred (Byrne & Griffith, 1966; Brochner & Swap, 1976). The daily interaction of teachers and their pupils would be likely to encourage more perceived similarity of attitudes over a period of weeks. The interaction would also be expected to be more numerous between the teacher and pupils who were regarded with positive feelings or negative feelings than between the teacher and pupils who were regarded with neutral feelings. Research by Silberman (1969, 1970) and Brophy &

Good (1970, 1971, 1973) have found that the quantity of teacher-pupil interaction was greater toward acceptance and rejection pupils than toward the concern and unknown pupils.

Attribution theory provides information about the way teacher expectations are formed and can be changed. Teacher expectations are formed from the attributions that they make toward the dispositional characteristics of their pupils. These attributions toward pupils are affected by the ego-defensive perception of the teacher as an actor or observer. These expectations and attributions are reinforced or changed through daily interaction that occurs in the classroom.

Cooperating Teachers' Influence
Upon Intern Teachers' Attitudes

The intern teachers' relationship with their cooperating teachers is a specific example of the balance model and attraction model. The intern teachers' attitudes toward teaching would be expected to show the influence of the daily interaction with the cooperating teachers. The perception of attitude similarity would operate to influence the attitudes of both the intern and cooperating teachers. Research studies have shown that the greater influence has occurred from the cooperating teachers; that the attitudes of intern teachers tended to change in the direction of the cooperating teachers' attitudes (McAuley, 1960; Price, 1961; Stoller & Lesser, 1964; Yee, 1969). Price concluded that "the attitudes of student teachers changed considerably toward the attitudes of the classroom teacher with whom they worked . . . in some cases mirroring those

of the cooperating teacher" (1961, p. 471). In Price (1961) eight of the nine subgroups of high, middle and low attitude intern teachers changed their attitudes in the direction of their respective cooperating teachers' attitudes (p. 473). Yee stated that "student teachers shifted their attitudes to approximate more closely the attitudes of the cooperating teachers" (1969, p. 332). In a longitudinal study McAuley concluded that the cooperating teachers' influence on the student teacher was evident in "methods, relationships, and techniques of classroom control" used by the intern teachers more than a year after the intern semester (1960, p. 79). Yee concluded that the attitudes of student teachers toward pupils in the classroom generally reflected the predominant influence of their cooperating teacher (1969, p. 332). The Minnesota Teacher Attitude Inventory (MTAI) has been used in these research studies to sample the attitudes of the intern and cooperating teachers. None of the research studies that were investigated and are reviewed attempted to study the attitudes of the intern or cooperating teachers toward individual pupils.

Interaction Process Analysis in Teacher Training

The use of interaction process analysis in teacher training has been the focus of numerous research studies. One of the most often used systems of interaction process analysis has been the Flanders System of Interaction Analysis (FSIA). Lamb (1970) stated that most of the other systems of interaction process analysis that have been developed during the last 15 years were built primarily on

the work of Ned Flanders (p. 242). Flanders' research and the development of his system of interaction analysis were extensions of work by Anderson, Lippert and White, Withall, and Bales (Gallagher, 1969, p. 21). In this study the review of literature on interaction process analysis will be limited to its use in teacher training. Several sources are available for information on the development of the various systems of interaction process analysis (Amidon & Hunter, 1968; Flanders, 1970).

The research studies using FSIA in teacher training have consistently found relationships between the teacher's verbal behaviors and the achievement and attitude of pupils. Flanders (1970) stated:

it appears that when classroom interaction patterns indicate that pupils have opportunities to express their ideas and when these ideas are incorporated into the learning activities then the pupils seem to learn more and to develop more positive attitudes toward the teacher and learning activities (p. 401).

Rosenshine (1971) concluded that "teachers who use a good deal of criticism appear to have classes which achieve less in most subject areas" (p. 4).

The use of FSIA in the training of teachers has most often been in conjunction with the supervision of intern teachers. Various studies have shown that changes in the intern teachers' verbal behaviors occurred during training using FSIA (Bondi, 1969; Finske, 1967; McLeod, 1965; Moskowitz, 1967).

Zahn (1967) concluded that "the use of interaction analysis in the instruction and supervision of student teachers appears to

be related to a positive change in the teaching attitude of the student" (p. 297). He also stated that the effect of the cooperating teacher on the attitude of the student teacher seems to occur less when interaction analysis is used in the student teachers' training program (p. 298).

Kirk (1967) concluded in his study that the student teachers who were trained in interaction process analysis "were made more aware of what they did in class . . . and they achieved a relaxed, conversational, and content-centered atmosphere" (p. 306).

Furst (1965) used the Verbal Interaction Categorization System (VICS) as well as FSIA. Her study found that student teachers trained with FSIA differed significantly from student teachers who were not trained. These differences were particularly evident in the use of acceptance and rejection behavior. The trained student teachers used more acceptance of pupil behavior and ideas than did the untrained student teachers, and used less rejecting of pupil behaviors than the untrained student teachers (p. 328).

Bondi (1969) found that the student teachers trained in interaction process analysis used with a feedback system differed from the untrained student teachers in their use of more praise; more extended praise and pupil talk; more clarifying and accepting pupil ideas; more questioning behaviors; less lecturing; less giving of directions (p. 798).

In a study by Finske (1967) it was concluded that intern teachers who were trained in FSIA were more flexible, encouraged more pupil initiated talk. The trained intern teachers were more

"aware" of their influence on the verbal behavior of students.

A study by Moskowitz (1967) included training in interaction process analysis for both cooperating teachers and intern teachers. In this study four groups were used. In Group 1 the cooperating teacher and intern teacher were both trained. In Group 2 only the intern teachers were trained. In Group 3 only the cooperating teacher was trained. Group 4 had neither the cooperating or intern teachers trained. The results of this study indicated that training in interaction process analysis for Group 2 made them "more resistant to the tendency to emulate their untrained cooperating teacher" (p. 275). The influence of the cooperating teachers in groups 1, 3 and 4 was strong with the intern teachers becoming similar to the cooperating teachers whether the cooperating teacher was trained (1 and 3) or untrained (4).

McLeod (1965) found that intern teachers trained in interaction process analysis were less likely to mimic their cooperating teacher's interaction patterns. Those untrained were more likely to imitate the cooperating teacher (p. 360).

The effects of training intern teachers in interaction process analysis have been shown to affect their verbal behavior patterns and to make the intern teachers less likely to accept the behavior or attitudes of the cooperating teachers. The strength of the teachers' verbal behavior pattern on the total classroom atmosphere was emphasized by Amidon (1967). Amidon stated that "the teacher's principal behavior pattern spreads among pupils and is taken over by them even when the teacher is no longer present in the room (p. 74).

Summary

The related literature which has been reviewed in this chapter revealed:

(1) That teacher expectations are formed on the basis of numerous pupil characteristics.

(2) That teacher expectations in naturalistic studies have yielded positive results. Teacher expectations in induced or manipulation studies have mixed results.

(3) That the effects of teacher expectations are observable in the differential interactions that occur between teachers and pupils.

(4) That teacher attributions tend to be toward the dispositional characteristics of the pupil.

(5) That teacher attributions tend to be affected by ego-defensive perceptions.

(6) That attributions in interpersonal interactions tend to become more positive when individuals interact regularly over a period of time.

(7) That the attitudes of intern teachers become similar to the attitudes of their cooperating teachers.

(8) That training in interaction process analysis affects the verbal behavior of teachers with most of the changes being toward higher pupil involvement in the interaction.

(9) That intern teachers trained in interaction process analysis are less likely to mimic the behavior patterns of their cooperating teachers.

CHAPTER III

PRESENTATION AND ANALYSIS OF DATA

Presentation of Data

The data was collected during the intern teaching semester as scheduled. The cooperating and intern teachers rated pupils selected through the Pupil Differential Descriptor. Each pupil was rated twice by the cooperating teachers and three times by the intern teachers. The participation of the cooperating teachers was at their option and the data reflected losses of the nonparticipants. With the length of the study some losses occurred when pupils moved from the participating classrooms. These losses were also reflected in the data.

Minnesota Teacher Attitude Inventory Data

Data on teacher attitudes using the Minnesota Teacher Attitude Inventory (MTAI) was collected for the intern and cooperating teachers on a pre-test and post-test. Scores were calculated using items selected from factor analytic studies of the MTAI (Appendix A). Scoring was on a range of 1 to 5 using the Yee and Kriewall Logical Scoring Key (1969). Descriptive data from the MTAI are reported in Table 1.

TABLE 1
MTAI RESULTS

	N	Range	Mean	S.D.	S.E.
Cooperating Teacher Pretest	25	255-361	308.07	26.63	5.32
Intern Teacher Pretest	25	259-353	298.34	21.33	4.18
Cooperating Teacher Post-Test	25	254-334	292.77	23.81	5.07
Intern Teacher Post-Test	25	251-335	285.57	19.80	3.88

VICS Exam Data

The treatment in this study was the training of the twenty-six intern teachers in the use of the Verbal Interaction Categorization System (VICS). Study and use of VICS during the semester was accomplished through instruction and observations by the interns of teaching done by peers. The use of VICS during the semester required a minimum of coding of five prescribed lessons taught by peers. A discussion of the VICS coding with the intern group in a peer feedback session followed the lesson.

The knowledge of VICS prior to the intern teaching semester was sampled through a self-report. None of the intern teachers reported any knowledge or use of VICS prior to the semester. The post-treatment knowledge of VICS was measured on an exam during the sixteenth week. The exam included both factual information and coding a classroom dialogue using the VICS. The exam data were: range 26-43; $\bar{M} = 35.30$; $S = 3.76$; $S.E. = .73$. Intern teachers were divided into two treatment groups based upon the VICS exam. The two groups were

divided at $\pm .25$ standard deviation from the mean of the exam. The 10 interns having scores greater than $.25 S$ above the mean were identified as the high VICS intern teachers. The 10 interns having scores greater than $.25 S$ below the mean were identified as the low VICS intern teachers. Six of the intern teachers had scores between $+.25S$ and $-.25S$.

Pupil Description Questionnaire Data

The cooperating teachers selected pupils to be rated on the Pupil Description Questionnaire (PDQ) in response to the four categories developed by Silberman (1969). Two pupils in each category were selected for a total of eight pupil ratings for each cooperating teacher. The distribution of the pupils rated in each of the groups is reported in Table 2.

The pupil ratings by the cooperating teachers were paired with the pupil ratings of the intern teachers on the pre-ratings and post-ratings. The number and distribution of PDQ pupil ratings by the cooperating and intern teachers is reported in Table 3.

TABLE 2
PDQ RATINGS BY STUDENT GROUP

Student Grouping	No. of Ratings
Attachment	51
Concern	48
Unknown	51
Rejected	<u>50</u>
Total Students	200

TABLE 3

DISTRIBUTION OF PDQ RATINGS

Total Students Rated	200
Co-op/Intern Pre-Post Pairs	153
Co-op/Intern Pre Pairs	172
Co-op/Intern Post Pairs	163

The PDQ ratings were scored using the distance score formula:

$D = \sqrt{\sum d_{ij}^2}$. This distance score (D) gives a measure which reflects the differences in perceptions of the same concept rated by different individuals or by the same individual on different occasions. The D score was calculated on each pupil rating with the perceptions of the cooperating teacher being the base line of the distance. The D scores were treated in both intern groups by knowledge of VICS and by pupil groups: attachment, concern, unknown, rejection.

The PDQ ratings by the cooperating teachers are reported in figures 1-5 by the total ratings and by pupil groups. Data are given for the factor D scores on each of the three factors (achievement, ability, and personality) and the total D score for the rating.

Cooperating teachers' pre and post-ratings. Changes in the cooperating teachers' attributions toward the pupils between the pre-rating and the post-rating for the total group of pupils are shown in Figure 1. The profile indicated that for the total group of pupils the changes seemed to occur mostly on the Ability factor of the scale. The value of Ability $D_2 = .600$ accounted for over 50% of the total D score ($D = 1.16$).

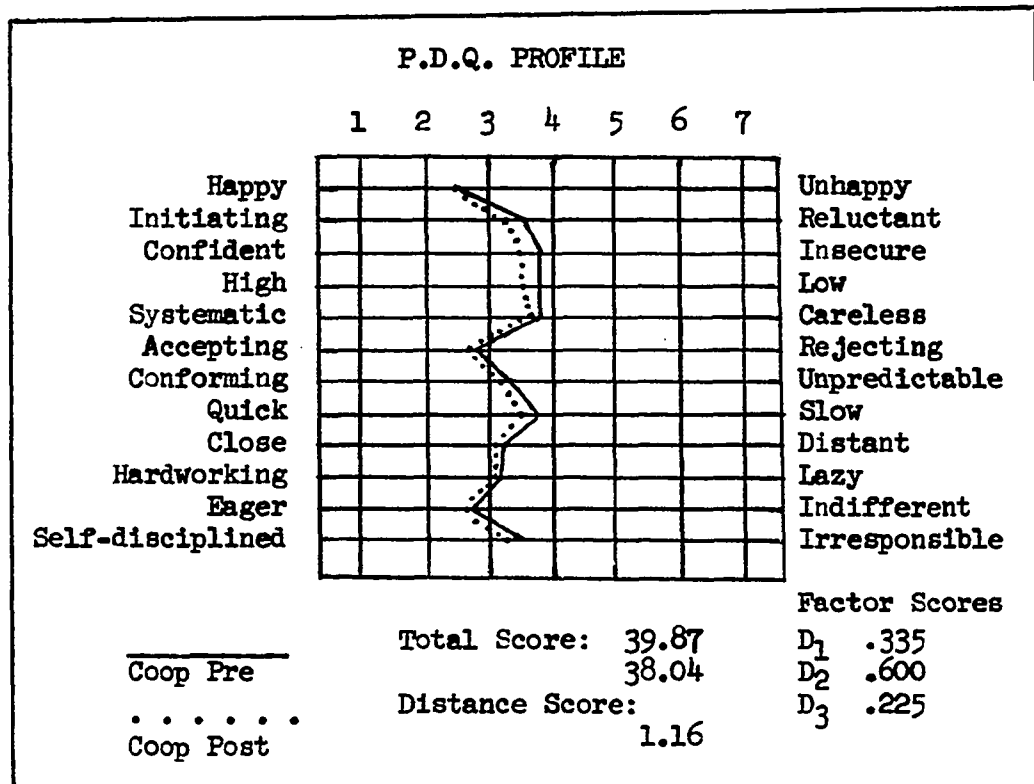


FIGURE 1

COOPERATING TEACHERS' PRE AND POST RATINGS
FOR TOTAL PUPILS

The difference in the means for raw score of the two ratings was 1.83 with the post rating being more positive toward the pupils. The profiles showing the changes in attributions toward the pupils by pupil group are reported in Figures 2-5. The four pupil groups showed D scores ranging from .80 for the acceptance pupils to 3.51 for the rejection pupils. The profile for the acceptance group was not distributed across the factors and the total D score was less than 50% of the concern pupil group score. The concern pupils had a total D score of 1.70 with the Ability factor being the largest factor D score. The unknown and rejection pupil groups showed the largest total D scores with the total D score unknown = 2.69 and

and rejection total D score = 3.51. The profiles indicated that the post ratings were more positive toward each of these pupil groups. The largest factor D score for the unknown pupil group was on the Ability factor ($D = 1.06$). The largest factor D score for the rejection pupil group was on the Achievement factor ($D = 1.30$).

The cooperating teachers' total D scores for the pre and post ratings indicated that changes in attributions during the sixteen week intern teaching semester occurred more for the unknown and rejection pupil groups than for the acceptance and concern pupil groups. These changes were in a positive direction. The largest difference was for the rejection pupils. The magnitude of the differences were not large enough to change the overall placement of the groups. Therefore, the rejection pupils were still rated lowest in total D score and farther from the acceptance pupils than either the concern or unknown pupils. The between group total D score differences for the post-rating were smaller than the between group pre-rating total D scores. The total D scores calculated from the acceptance pupils on the pre-rating and post-rating were: D unknown = 11.81, 8.76; concern = 13.15, 12.00; rejection = 16.44, 13.02.

The profiles for the cooperating teachers' pre-post ratings indicated that for the sixteen week semester changes in the cooperating teachers' attributions toward the pupils by pupil group were small but positive. The comparison of the intern teachers' pre-ratings were expected to reflect the cooperating teachers' attributions. Any effects of the use of VICS would be indicated by changes in the

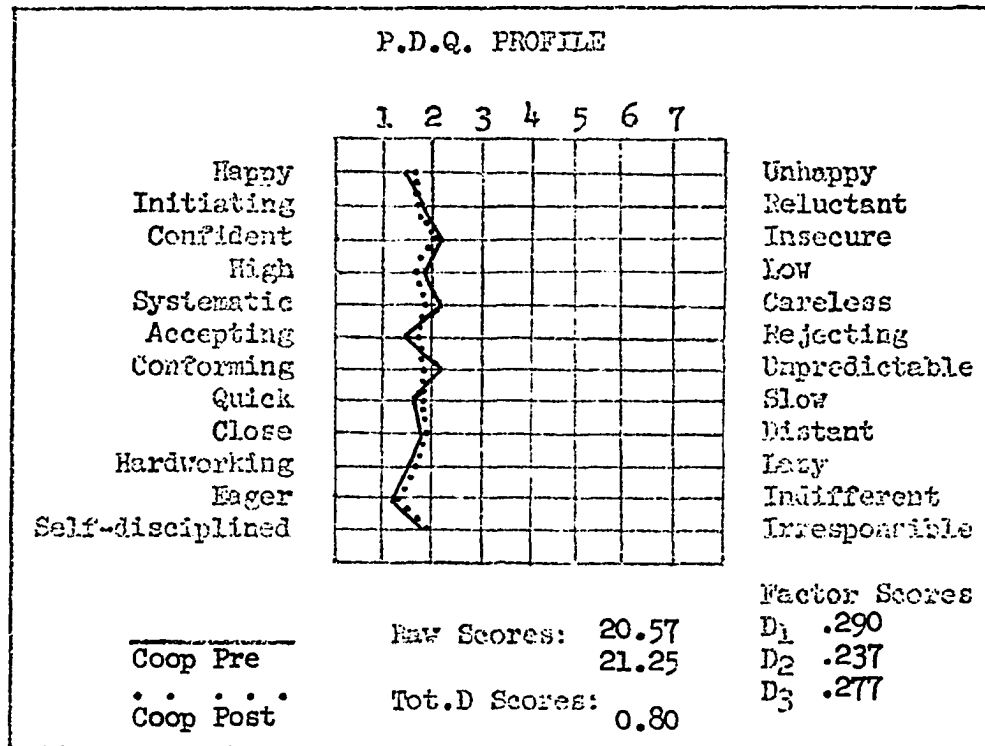


FIGURE 2
COMPARISON OF COOPERATING TEACHERS' PRE AND POST-RATINGS
FOR ACCEPTANCE PUPILS

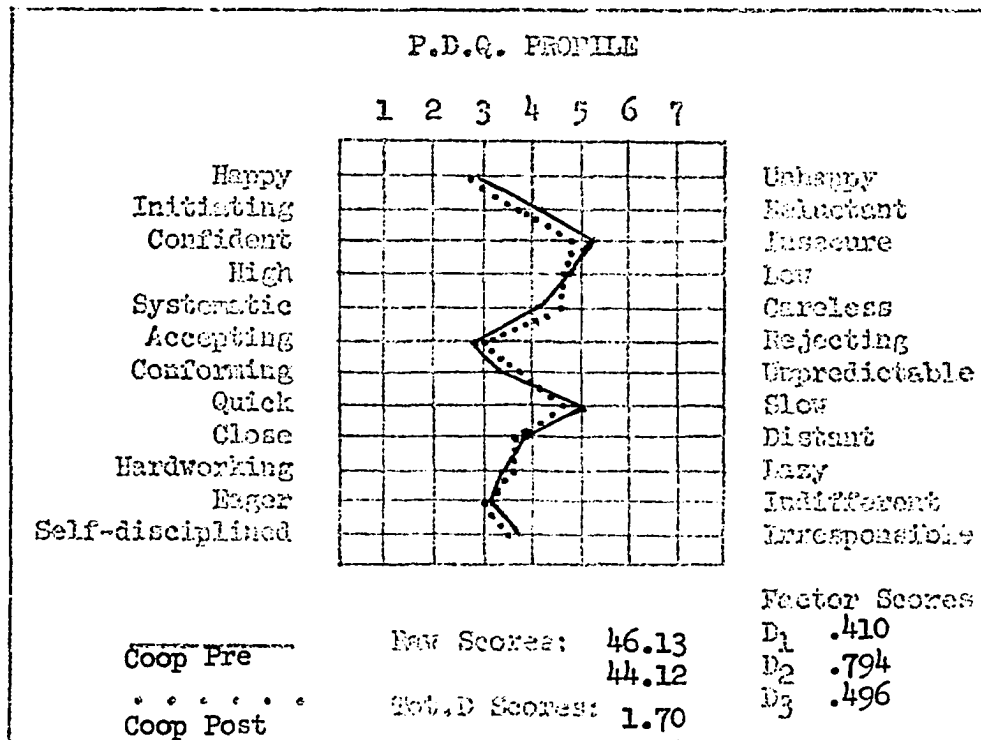


FIGURE 3
COMPARISON OF COOPERATING TEACHERS' PRE AND POST-RATINGS
FOR CONCERN PUPILS

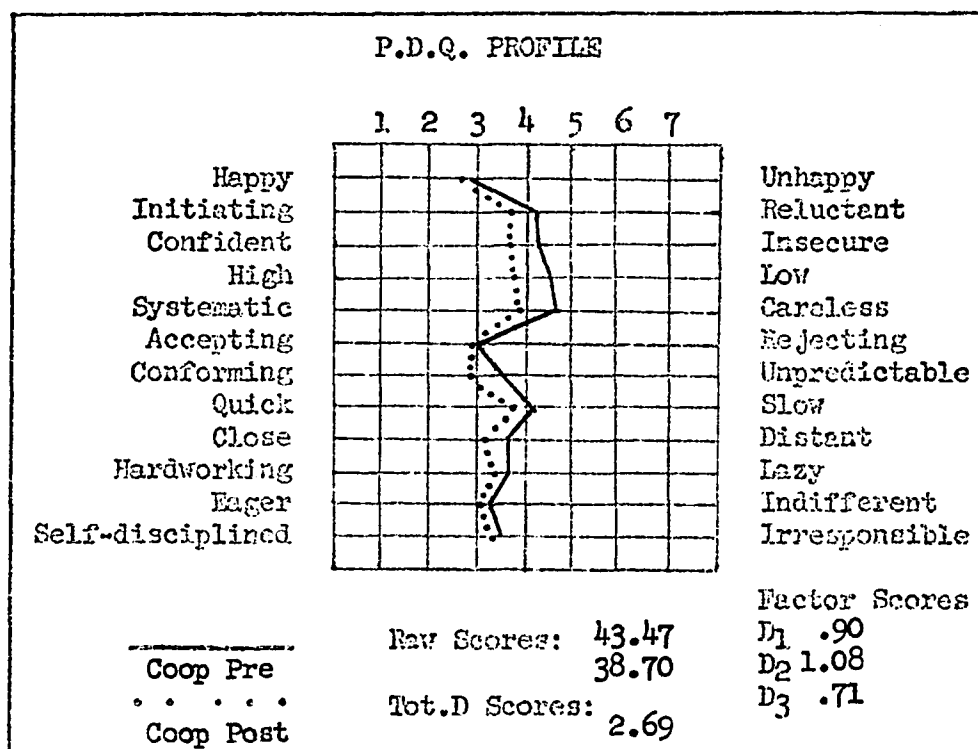


FIGURE 4
COMPARISON OF COOPERATING TEACHERS' PRE AND POST-RATINGS
FOR UNKNOWN PUPILS

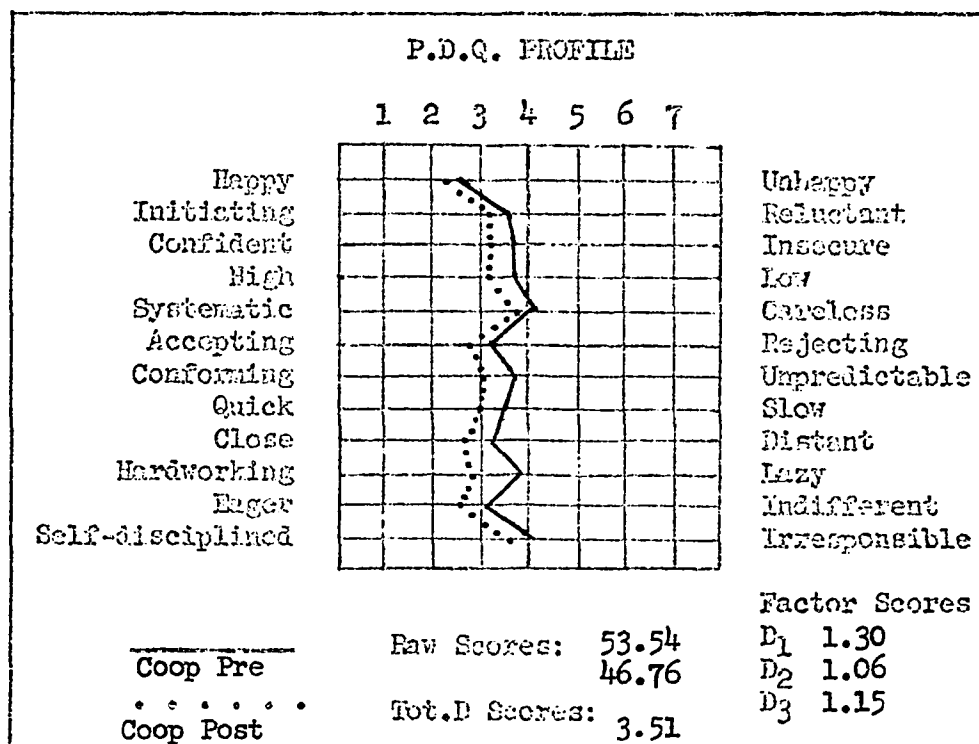


FIGURE 5
COMPARISON OF COOPERATING TEACHERS' PRE AND POST-RATINGS
FOR REJECTION PUPILS

post-rating D scores between the intern and cooperating teachers' ratings.

Intern and cooperating teachers' pre-ratings. The profiles for the intern teachers' pre-ratings compared to their cooperating teachers' pre-ratings are presented by pupil group and VICS intern group in figures 6-13. In figures 6 and 7 the profiles for the acceptance pupil group are shown. Both of the intern teacher groups rated these pupils lower than their cooperating teachers. The high VICS interns had the lowest factor D score on the Personality factor ($D = .741$). The low VICS interns had the highest factor D score on the Personality factor ($D = 1.624$). The comparison of the total D scores indicated that the low VICS intern group rated the acceptance pupils farther from their cooperating teachers ($D = 4.32$) than the high VICS intern group ($D = 3.55$).

The concern pupil group profiles are shown in figures 8 and 9. The intern teachers rated these pupils generally lower than the cooperating teachers except on the Ability factor. The D scores for the Ability factor were different for the intern groups with the high VICS interns having a factor D score = .535 and the low VICS interns having a factor D = 1.225. The low VICS interns rated the concern pupils farther ($D = 4.17$) from the cooperating teachers than the high VICS interns ($D = 3.03$).

The profiles for the unknown pupil group showed total D scores which were larger than for the acceptance and concern pupil groups. Figures 10 and 11 showed that the high VICS interns rated these pupils closer to the cooperating teacher (total $D = 2.20$).

The low VICS interns rated these pupils lower and at a greater distance (total $D = 4.32$) from the cooperating teachers than the high VICS interns. The highest factor D scores for both intern groups were the D scores for the Achievement factor.

The rejection pupil group profiles indicated that the high VICS interns rated the pupils less distant ($D = 4.62$) from their cooperating teachers than the low VICS interns. The high VICS interns rated the rejection pupils in a more positive direction than their cooperating teachers. The largest factor D score for the high VICS interns was on the Ability factor. The largest factor D score for the low VICS interns was on the Personality factor.

The profiles of the intern and cooperating teachers' pre-ratings for the four pupil groups reported in Figures 6-13 indicated that for all four of the pupil groups the high VICS interns rated the pupils at less distance from their cooperating teachers than the low VICS interns. The size of the D score differences between the intern groups also increased across the four groups. The high VICS interns perceived of the pupils' characteristics more similarly as they were perceived by the cooperating teachers on the pre-ratings than the low VICS interns did. This was interpreted as indicating that the high VICS interns were more observant than the low VICS interns of the behavior of the cooperating teachers toward their pupils. The concern pupil group was rated lowest by both intern groups on the Ability factor. Both intern groups agreed with the cooperating teachers on the rating of the Ability of these pupils. The rejection pupil group was rated more closely by both intern groups on the Achievement factor. It was concluded that for the characteristics of

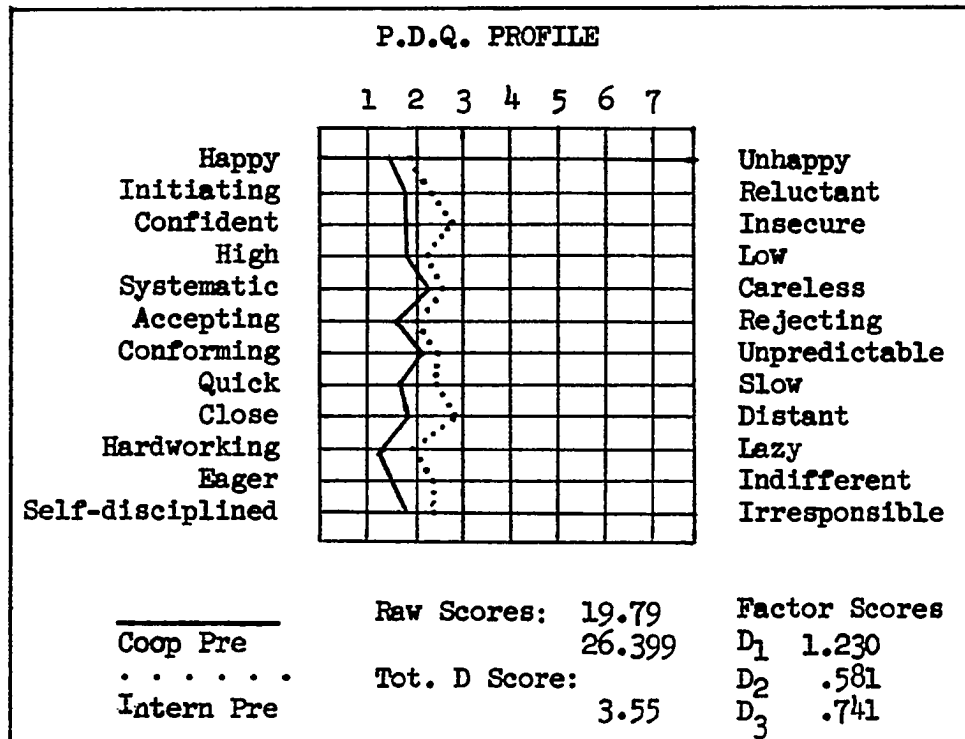


FIGURE 6
HIGH VICS INTERNS' AND COOPERATING TEACHERS'
PRE-RATINGS FOR ACCEPTANCE PUPILS

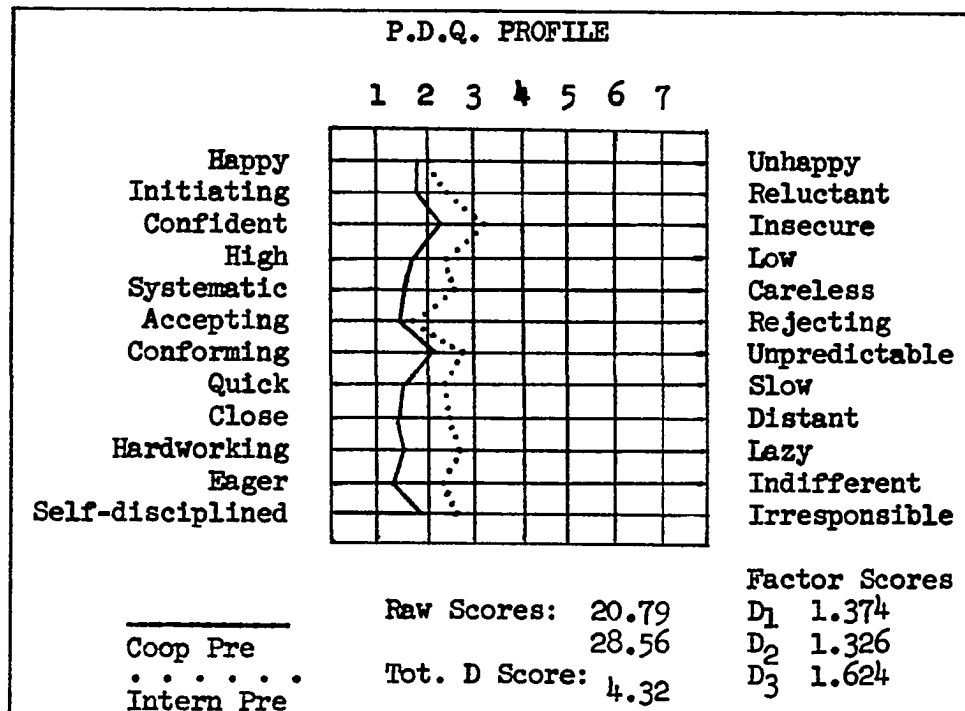


FIGURE 7
LOW VICS INTERNS' AND COOPERATING TEACHERS'
PRE-RATINGS FOR ACCEPTANCE PUPILS

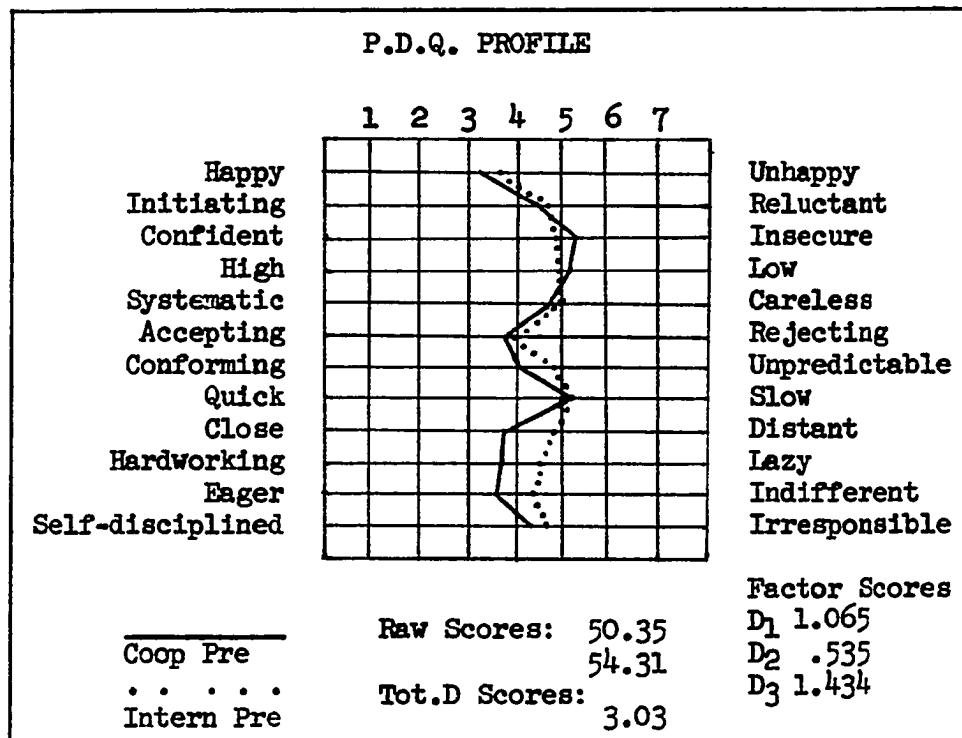


FIGURE 8
HIGH VICS INTERNS AND COOPERATING TEACHERS'
PRE-RATINGS FOR CONCERN PUPILS

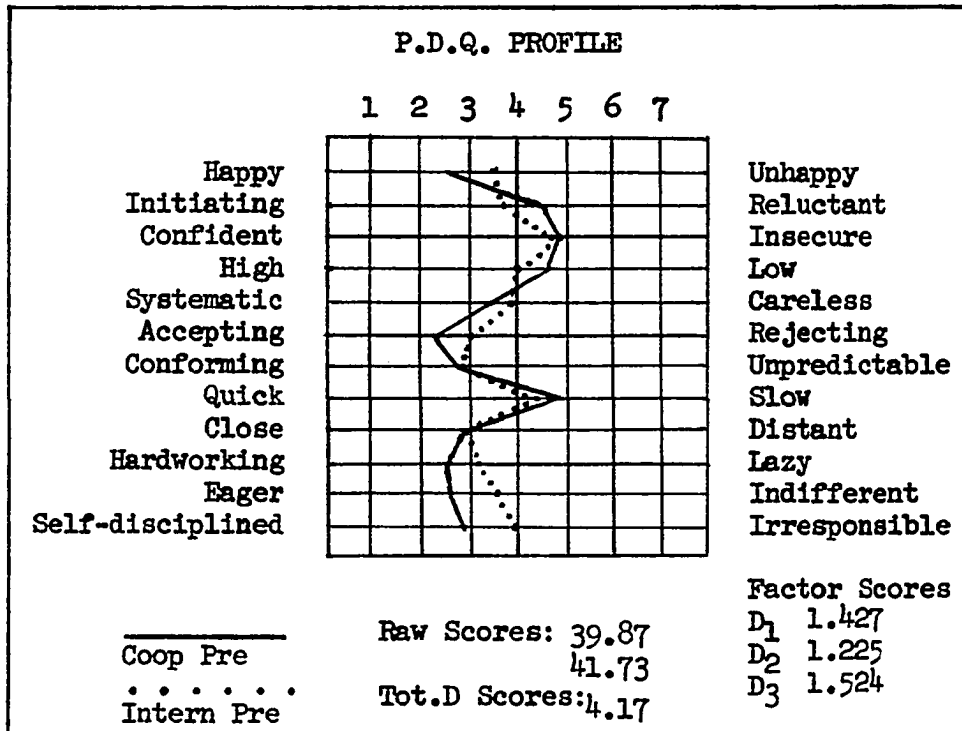


FIGURE 9
LOW VICS INTERNS' AND COOPERATING TEACHERS'
PRE-RATINGS FOR CONCERN PUPILS

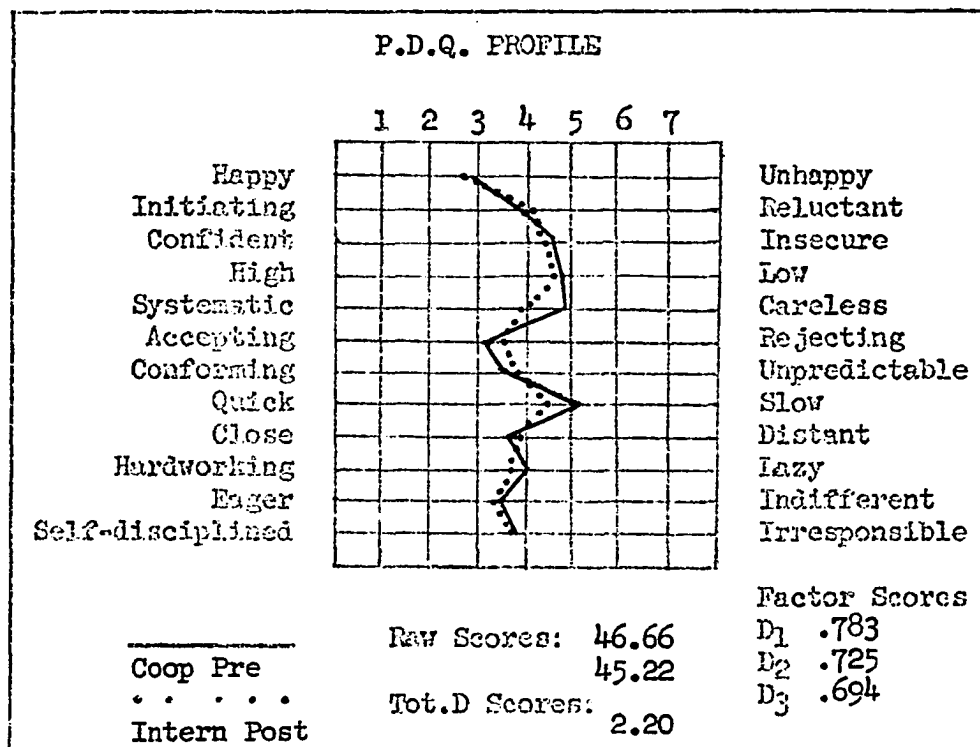


FIGURE 10
HIGH VICS INTERNS' AND COOPERATING TEACHERS'
PRE-RATINGS FOR UNKNOWN PUPILS

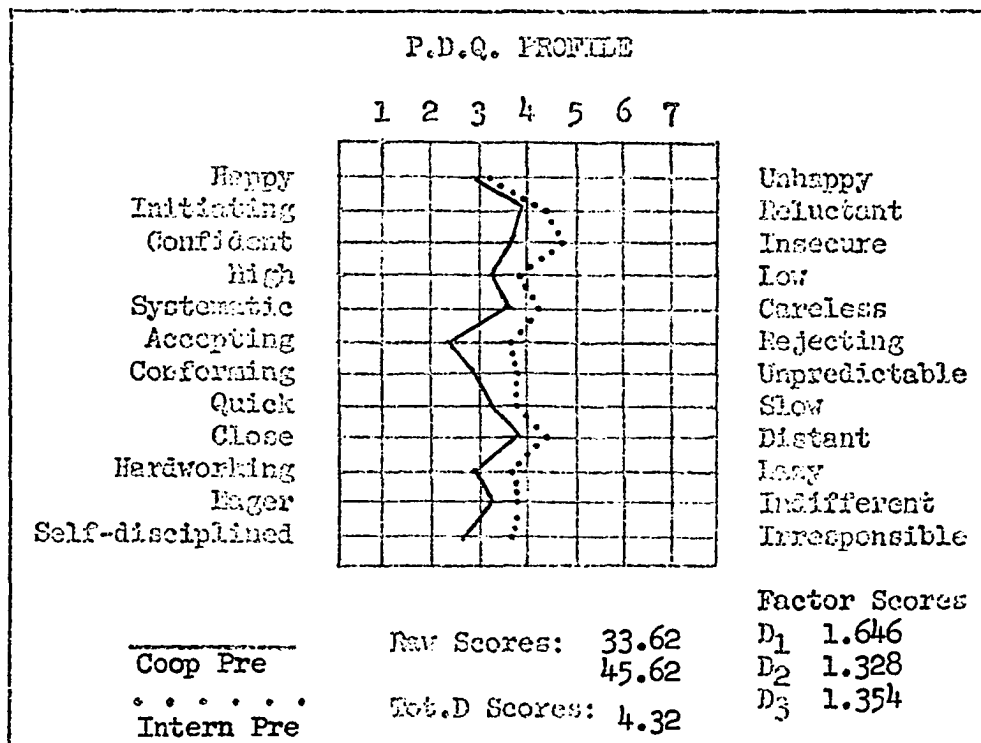


FIGURE 11
LOW VICS INTERNS' AND COOPERATING TEACHERS'
PRE-RATINGS FOR UNKNOWN PUPILS

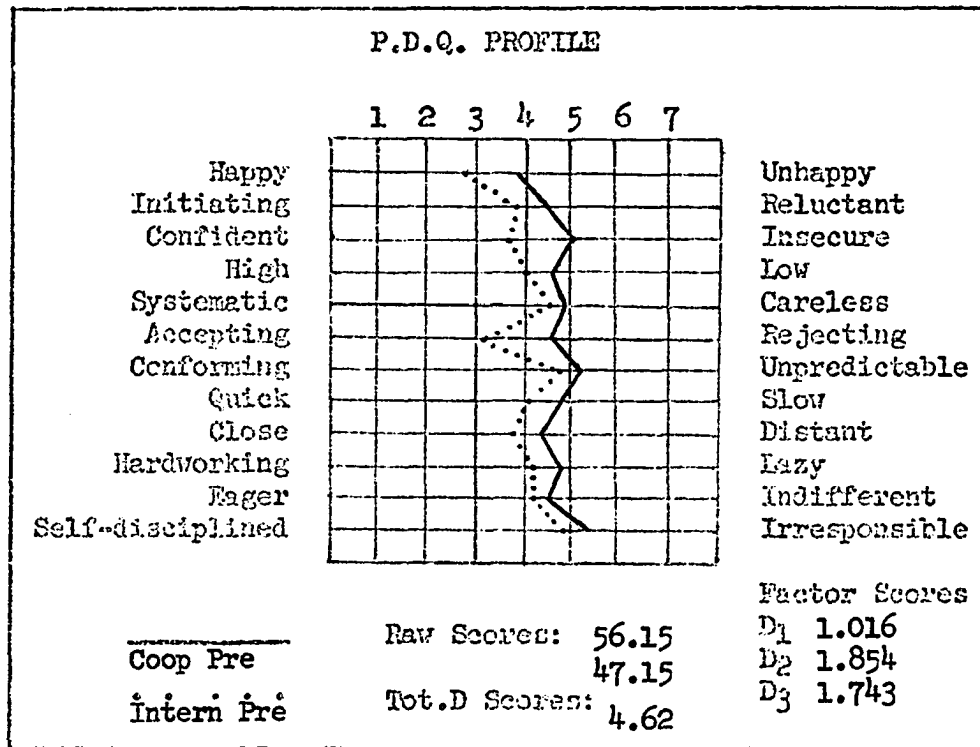


FIGURE 12
HIGH VICS INTERNS' AND COOPERATING TEACHERS'
PRE-RATINGS FOR REJECTION PUPILS

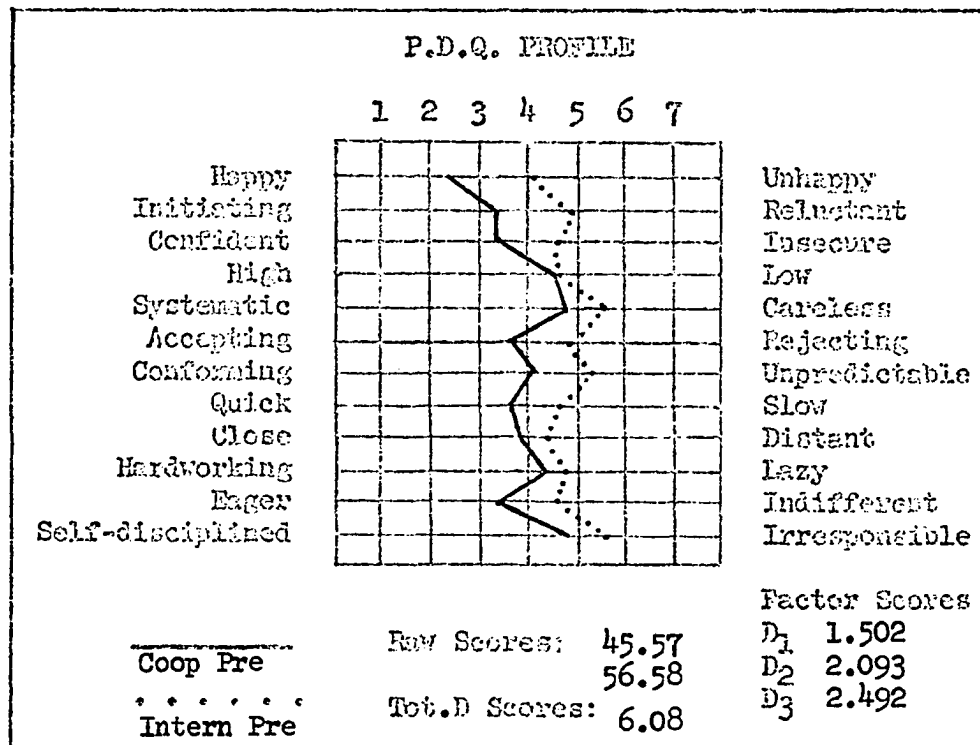


FIGURE 13
LOW VICS INTERNS' AND COOPERATING TEACHERS'
PRE-RATINGS FOR REJECTION PUPILS

the pupils in the concern and rejection groups, the intern teachers perceived them as did the cooperating teachers, i.e., the concern pupils lack ability; the rejection pupils lack achievement. The acceptance pupil group was rated very divergently by the intern teachers on the Personality factor.

Intern and cooperating teachers' post-ratings. The profiles for the intern teachers' post-ratings compared to their cooperating teachers' post-ratings are presented by pupil group and VICs intern group in Figures 14-21. The total D scores for these profiles showed that for both intern groups there was a convergence between the ratings of the interns and cooperating teachers.

The acceptance pupil group post-rating profiles in figures 14 and 15 showed that both groups of interns rated the pupils lower than the cooperating teachers, as they had on the pre-ratings. The total D score decreased most for the high VICs interns. The low VICs interns rated the acceptance pupils farther from the cooperating teacher than the high VICs intern teachers on pre and post-ratings. The size of the total D score difference between the intern groups increased. The high VICs interns became more similar to the cooperating teachers in the rating of these pupils. The factor D scores were largest on the Achievement factor for both intern groups.

The post-rating profiles for the concern pupil group indicated that there were decreasing total D scores for both intern groups. On the post-ratings, the high VICs interns were less distant ($D = 2.69$) than the low VICs interns ($D = 3.63$) from their cooperating teachers. The pre-rating to post-rating differences in the total D scores did not increase the size of the difference between the intern

groups. The factor D scores for the concern pupil group indicated some differences between the intern groups. The high VICS interns' Personality factor D score decreased from $D_3 = 1.434$ to $D_3 = .754$. The low VICS interns showed a difference on the Ability factor with a decrease from $D_2 = 1.225$ to $D_2 = .544$. These differences in factor D scores accounted for more than 50% of the differences in total D scores for the intern groups. Both intern groups pre and post-rated the concern pupils lower than did their cooperating teachers.

The profile for the unknown pupils (Figure 18-19) showed a decrease in the total D score for the low VICS interns but a small increase in the high VICS interns' total D score. The low VICS interns post-rated the pupils less distant from their cooperating teachers than on the pre-rating, but still had a larger total D score ($D = 3.55$) than the high VICS interns ($D = 2.53$). The increase in the total D score for the high VICS interns was not weighted on any factor with increases on both Achievement and Ability factors. The low VICS interns' factor D scores decreased on the Achievement factor ($D_1 = 1.646$ to $D_1 = 1.173$) which accounted for most of the total D score differences.

The rejection pupil group profiles are reported in Figures 20 and 21. The total D scores changes were greater for the rejection pupils than for the other three pupil groups. The low VICS interns rated these pupils more distant from their cooperating teachers than did the high VICS interns on pre and post-ratings. Both intern groups showed a convergence between their post-ratings and the

cooperating teachers' post-ratings. The high VICS interns' total post-rating D score ($D = 1.90$) showed the largest pre to post difference among any of the pre to post comparisons. This largest difference was across each of the three factors but the Achievement factor showed a change of 1.352 units ($D_1 \text{ pre} - D_1 \text{ post}$). This change in the Achievement factor D score was greater than the total D score differences for the pre-post ratings for the other three pupil groups. The size of this factor D score change for the high VICS interns led to further study of ratings for the rejection pupil group. The differences in the total raw score on the post-ratings for the rejection pupils showed a change had occurred in the raw score for the cooperating teachers. The raw score difference for the high VICS interns was 1.97 units and the cooperating teachers had a difference of 9.19 units. The change in the total D score was therefore attributable to changes in the cooperating teachers' ratings rather than to a convergence by the high VICS interns for the rejection pupil group.

The profiles for the intern teachers' post-ratings for the four pupil groups reported in Figures 14-21 showed that after 16 weeks of work with the pupils the intern teachers' ratings generally converged toward the ratings of their cooperating teachers. The exception was in the post-ratings for the concern pupil group by the high VICS interns. The high VICS interns' post-rated all four pupil groups less distant from the cooperating teachers than did the low VICS interns. The largest change for both intern groups on the post-ratings was for the rejection pupil group. A summary of the total

D scores calculated between the pre-ratings and the post-ratings of interns and cooperating teachers are reported in Table 4.

TABLE 4
INTERN TEACHERS' TOTAL D SCORES

Pupil Group	HIGH VICS INTERN		LOW VICS INTERN	
	Pre	Post	Pre	Post
Acceptance	3.55	2.41	4.32	4.04
Concern	3.03	2.69	4.17	3.63
Unknown	2.20	2.53	4.32	3.55
Rejection	4.62	1.90	6.08	4.30

Table 4 indicated that the low VICS interns post-rated the pupils at a greater distance from the cooperating teachers than the high VICS interns rated the pupils on their pre-ratings. The only pre-rating total D score by the high VICS interns which exceeded the post-ratings total D scores of the low VICS interns was for the rejection pupil group. The convergence of the ratings was interpreted as indicating that the influence of working with the pupils for 16 weeks was towards validation of the cooperating teachers' ratings of pupils. This may indicate either an objectivity in the perceptions of the cooperating teachers or the strength of their influence upon the intern teachers' attributions toward pupils. The factor D score differences from the pre-ratings

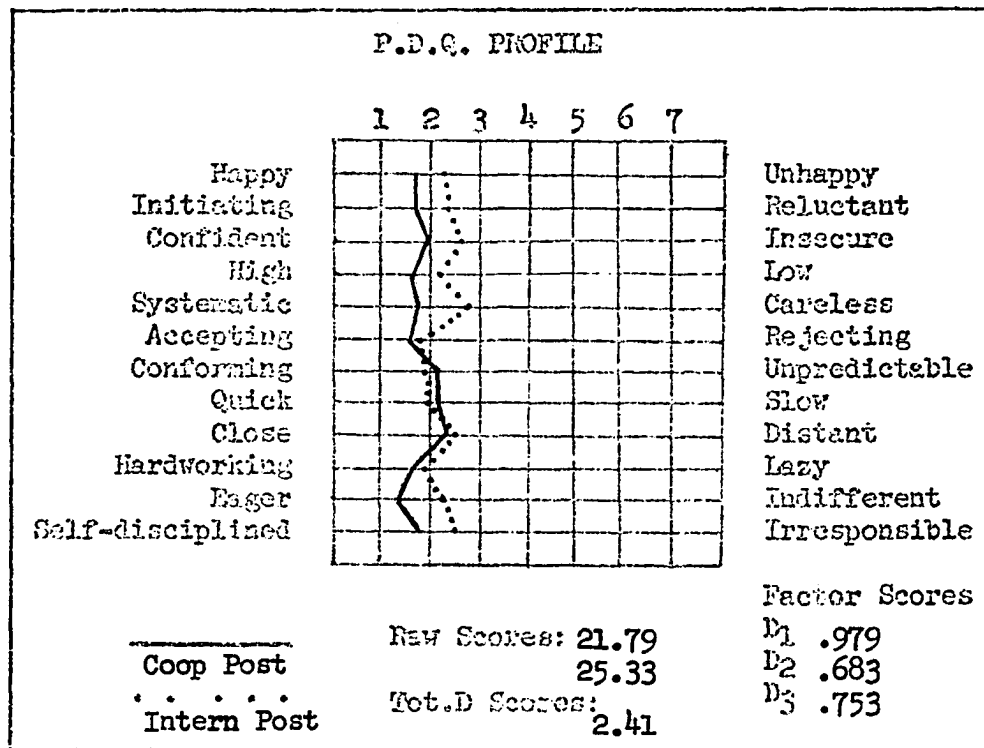


FIGURE 14
HIGH VICS INTERNS' AND COOPERATING TEACHERS'
POST-RATINGS FOR ACCEPTANCE PUPILS

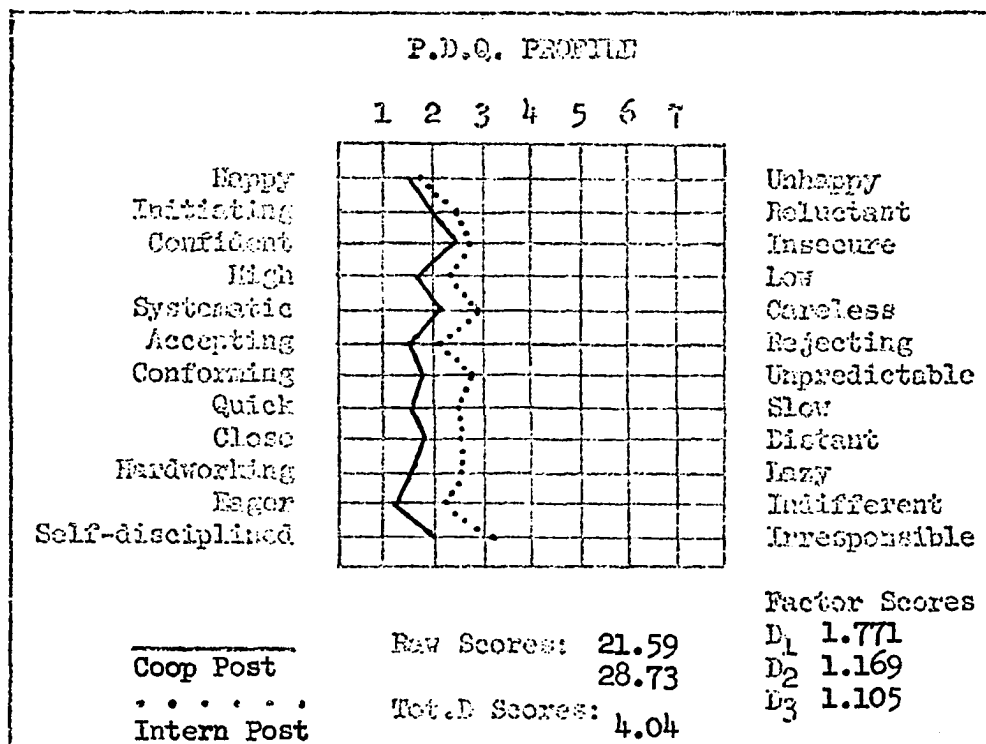


FIGURE 15
LOW VICS INTERNS' AND COOPERATING TEACHERS'
POST-RATING FOR ACCEPTANCE PUPILS

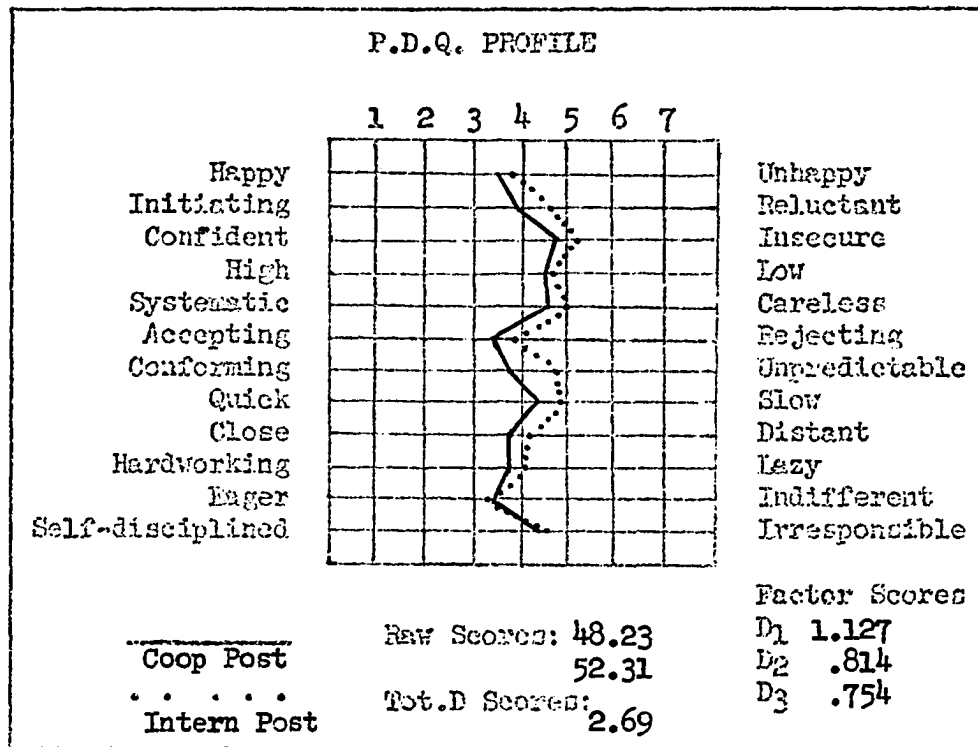


FIGURE 16
HIGH VICS INTERNS' AND COOPERATING TEACHERS'
POST-RATING FOR CONCERN PUPILS

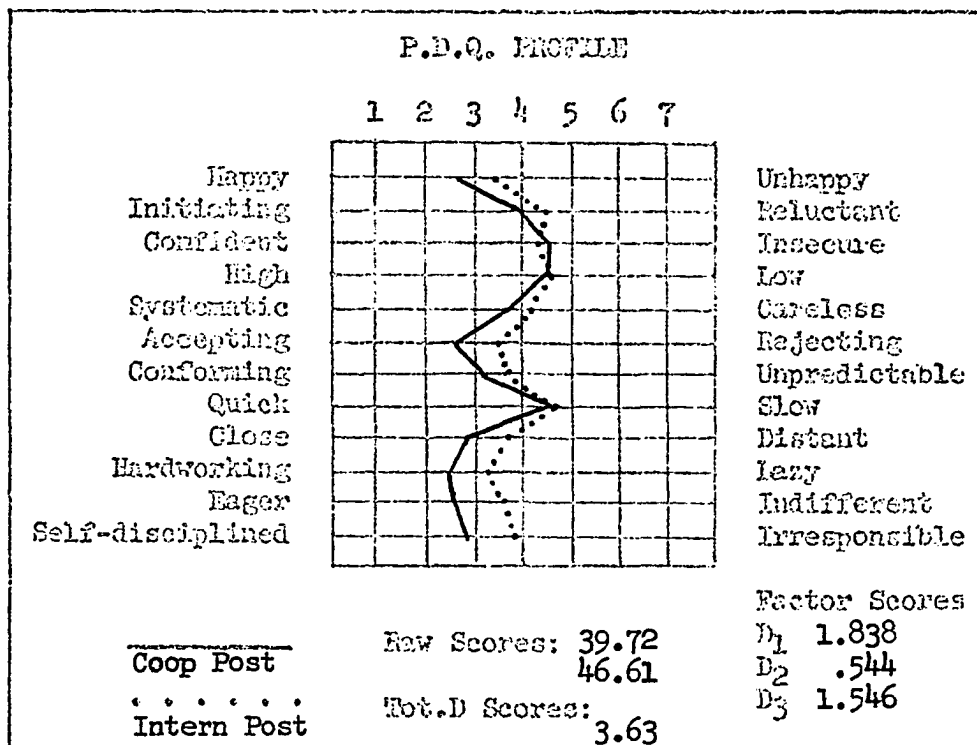


FIGURE 17
LOW VICS INTERNS' AND COOPERATING TEACHERS'
POST-RATINGS FOR CONCERN PUPILS

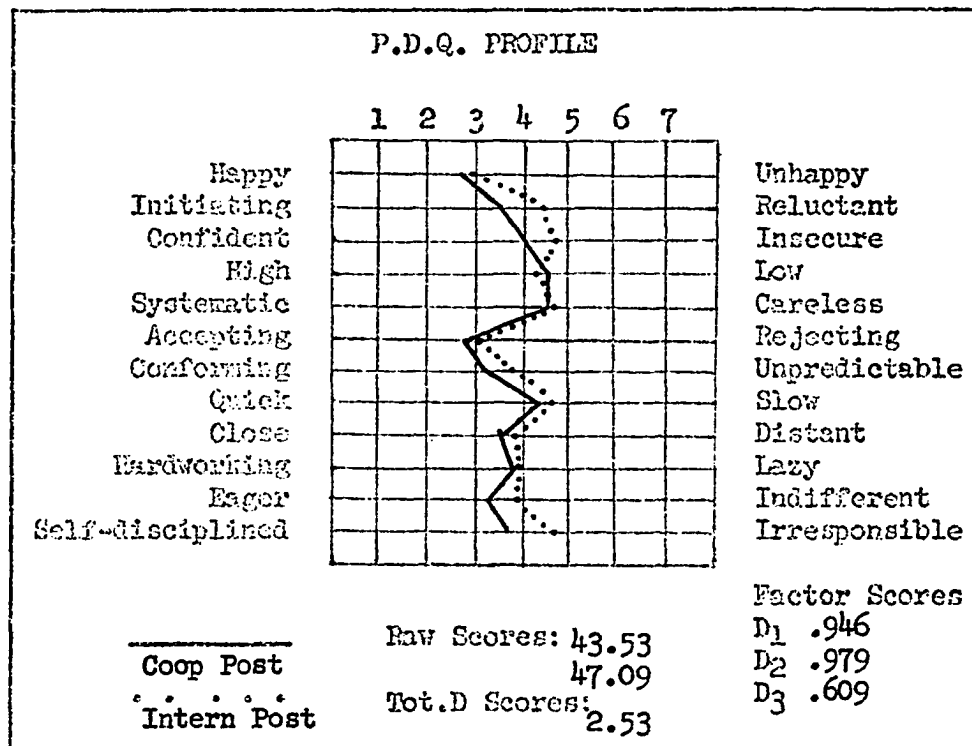


FIGURE 18
HIGH VICS INTERNS' AND COOPERATING TEACHERS'
POST-RATINGS FOR UNKNOWN PUPILS

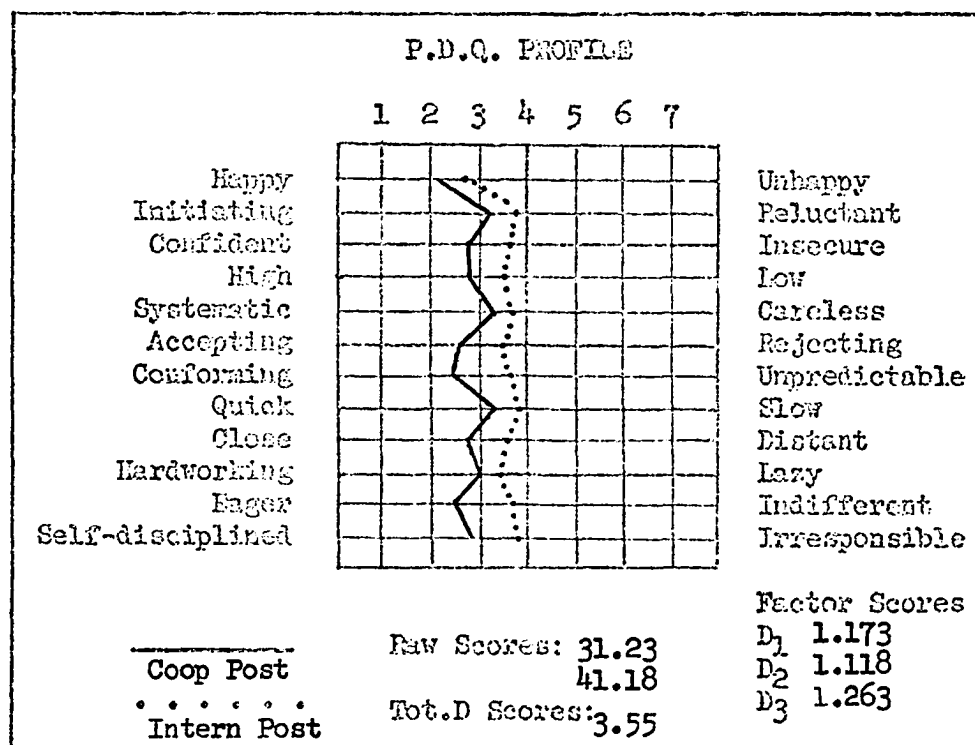


FIGURE 19
LOW VICS INTERNS' AND COOPERATING TEACHERS'
POST-RATINGS FOR UNKNOWN PUPILS

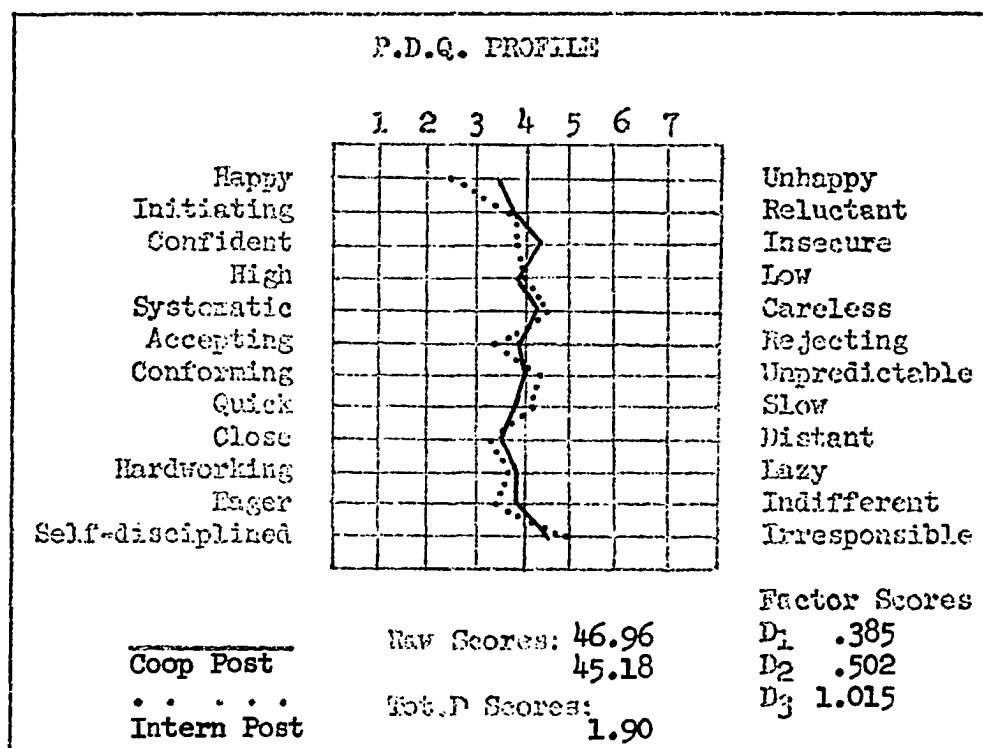


FIGURE 20
HIGH VICS INTERNS' AND COOPERATING TEACHERS'
POST-RATINGS FOR REJECTION PUPILS

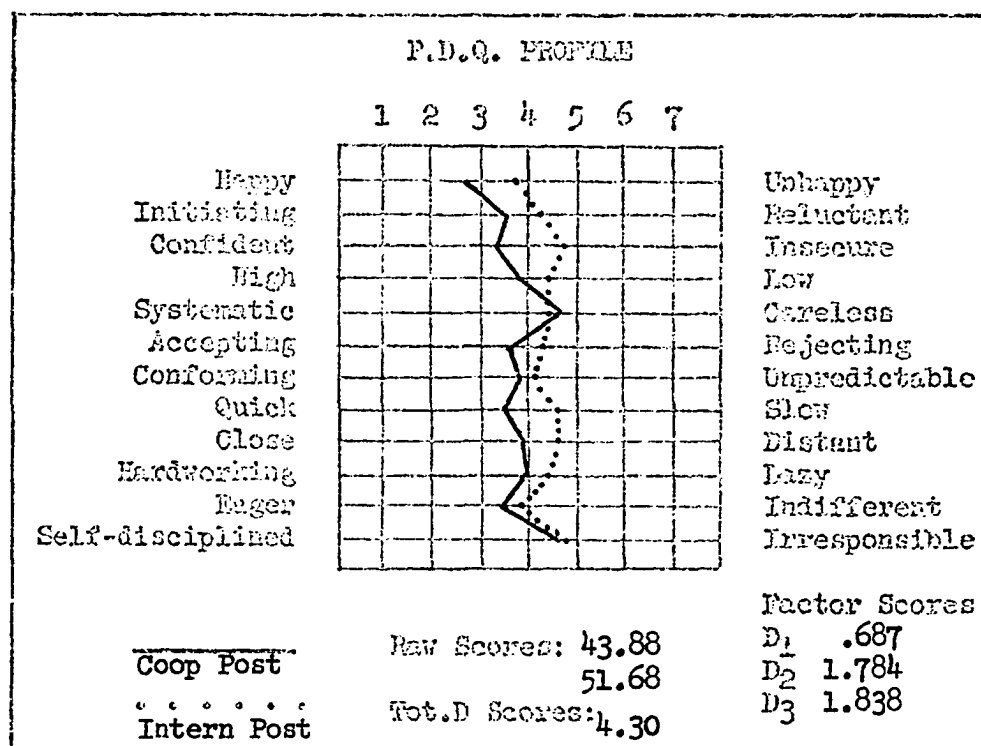


FIGURE 21
LOW VICS INTERNS' AND COOPERATING TEACHERS'
POST-RATINGS FOR REJECTION PUPILS

to the post-ratings for cooperating and intern teachers indicated that changes were distributed across all factors. The high VICS interns converged toward the cooperating teachers on the Ability factor for acceptance pupils, and on the Personality factor for concern pupils. The low VICS interns converged toward the cooperating teachers on the Ability factor for acceptance pupils, and on the Personality factor for concern pupils. The low VICS interns converged toward the cooperating teachers on the Personality factor for acceptance pupils, and on the Achievement factor for the unknown and rejection pupils.

Intern teachers' pre and post ratings. The changes in attributions toward individual pupils over the sixteen week semester were indicated by a comparison of the pre-ratings and post-ratings of the interns. The profiles in Figures 22-29 showed the D scores calculated between intern pre-ratings and post-ratings by intern VICS groups.

The acceptance pupils were rated lower on the post-ratings by the low VICS interns and higher by the high VICS interns. Figures 22 and 23 showed the post-ratings to have a total $D = 1.19$ for the high VICS interns and total $D = 1.63$ for the low VICS interns. The high VICS interns had a factor $D_3 = .510$ which indicated that the Personality factor accounted for 50% of the change. The low VICS interns showed changes across all three factors.

The concern pupils were post-rated in a positive direction from the pre-rating by the high VICS interns. The Personality factor $D_3 = 1.01$ accounted for 50% of the total $D = 1.97$ (Figure 24). The low VICS interns post-rated the concern pupils in a more negative

direction than on the pre-rating with a total $D = 2.89$. The factor score which was most distant for the low VICS interns was the Ability factor ($D = 1.237$, Figure 25).

The low VICS interns post-rated the unknown pupils in a positive direction (Figure 27). The total $D = 2.78$ was distributed across the three factors. Figure 26 indicated that the high VICS interns post-rated the unknown pupils less distant than the low VICS interns from the pre-ratings with a $D = 2.09$. There was not an apparent direction shown on the high VICS interns' post-rating change but the Achievement factor ($D = .956$) accounted for approximately 50% of the difference in total D score.

The profiles in Figures 28 and 29 showed that interns in both groups rated the rejection pupils in a more positive direction on the post-ratings. The high VICS interns had less difference in total D score than the low VICS interns. The high VICS interns' total D score ($D = 1.94$) changed mostly on the Achievement and Personality factors. The smallest change for the high VICS interns was on the Ability factor ($D_2 = 3.08$). The low VICS interns had a total $D = 3.21$ for the rejection pupils with the Achievement factor having the largest change ($D_1 = 1.587$).

The profiles in Figures 22-29 for the intern teachers' pre and post-ratings indicated that the high VICS interns perceived smaller changes over the semester for all pupil groups than did the low VICS interns. Table 5 shows a summary of the pre to post-ratings total D scores for the intern groups and for the cooperating teachers.

TABLE 5

TOTAL D SCORES BETWEEN PRE AND POST RATINGS

Pupil Group	High VICS Interns	Low VICS Interns	Cooperating Teachers
Acceptance	1.196	1.631	0.80
Concern	1.976	2.895	1.70
Unknown	2.096	2.787	2.69
Rejection	1.941	3.213	3.51

Table 5 indicated that the high VICS interns rated the pupils in all four groups less distant than the low VICS interns from their cooperating teachers. The high VICS interns also had lower total D scores for the unknown and rejection pupil groups than did the cooperating teachers.

The factor D scores which showed the least change for the high VICS interns were the Ability factor for the acceptance and the rejection pupil groups. By comparison, the factor D scores which showed the greatest change for the high VICS interns were the Personality factor for the concern pupils and Achievement factor for the unknown pupils. The low VICS interns had the greatest factor D score differences on the Achievement factor for the rejection pupils, and the Ability factor for the concern pupils. The low VICS interns had the smallest factor D score differences on the Ability and Personality factors for the acceptance pupils. The factor D scores for the high VICS interns indicated they perceived less changes on the Ability factor for the four groups. The low VICS interns

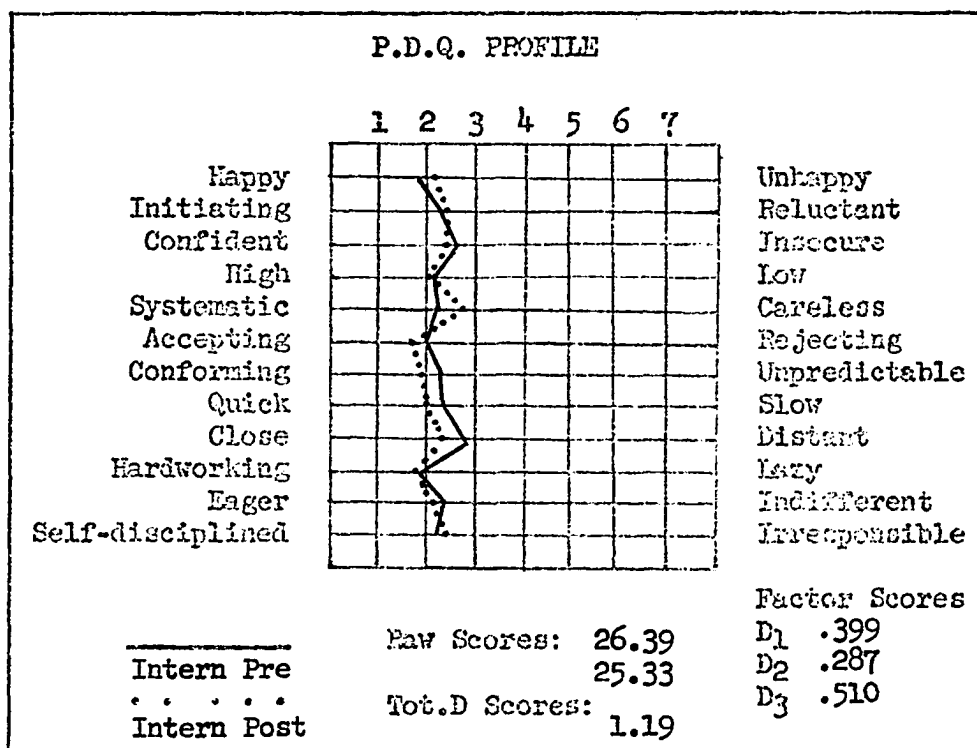


FIGURE 22
HIGH VICS INTERNS' PRE AND POST-RATINGS
FOR ACCEPTANCE PUPILS

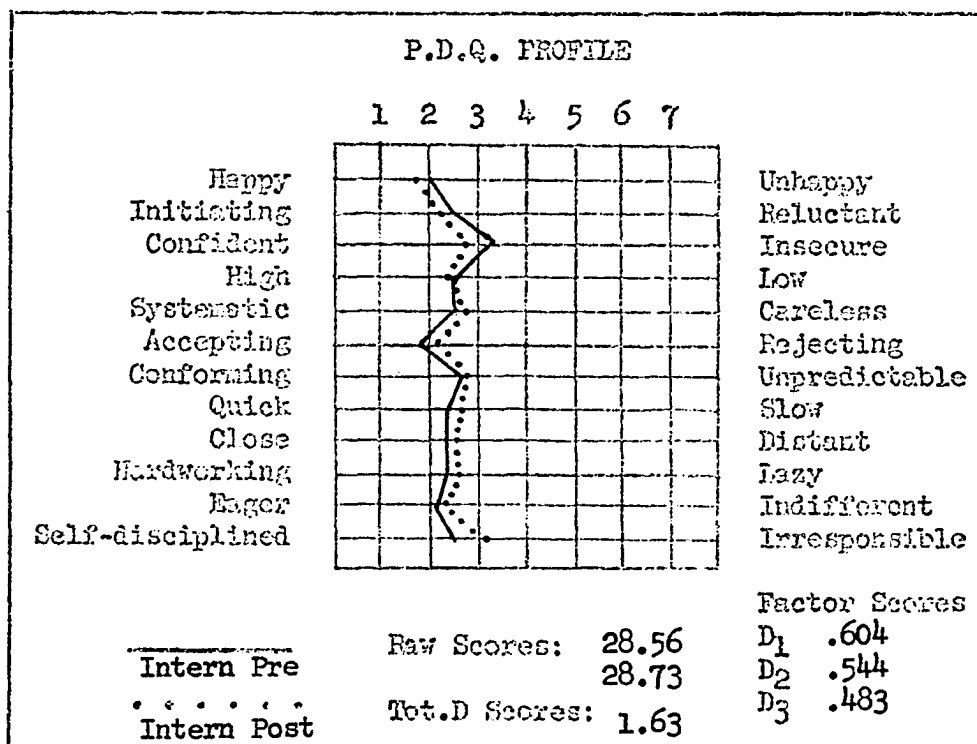


FIGURE 23
LOW VICS INTERNS' PRE AND POST-RATINGS
FOR ACCEPTANCE PUPILS

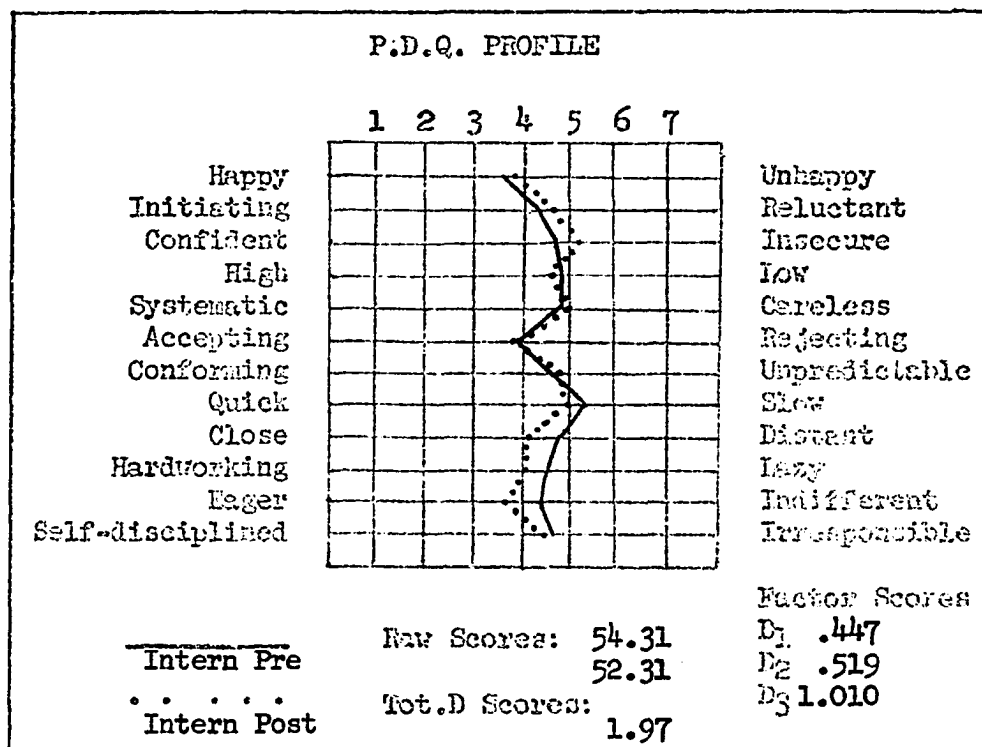


FIGURE 24
HIGH VICS INTERNS' PRE AND POST-RATINGS
FOR CONCERN PUPILS

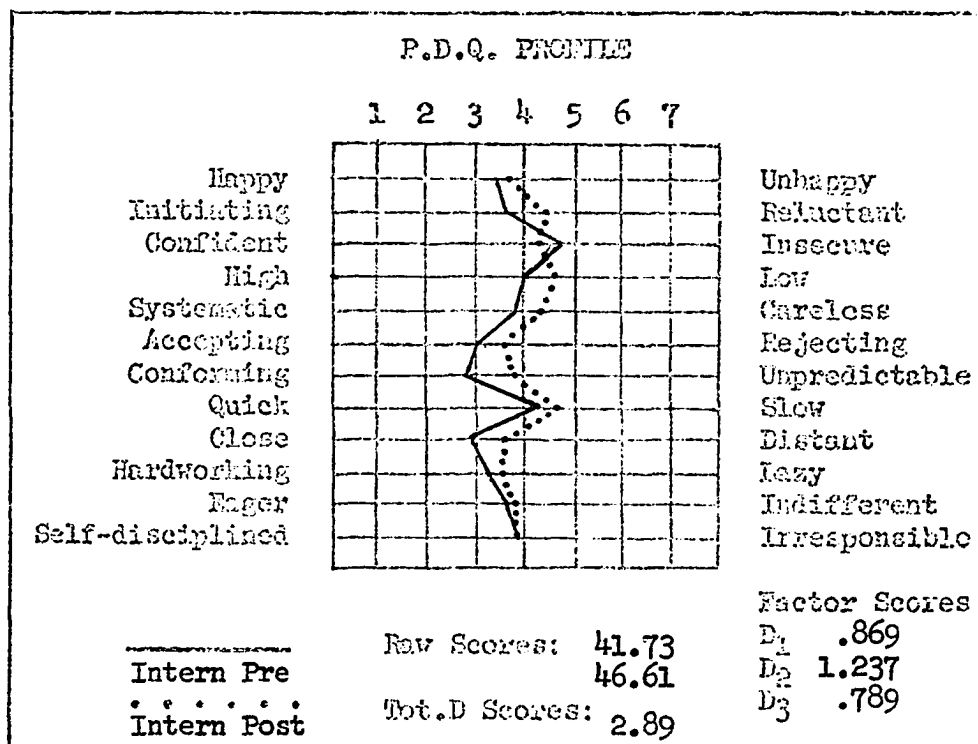


FIGURE 25
LOW VICS INTERNS' PRE AND POST-RATINGS
FOR CONCERN PUPILS

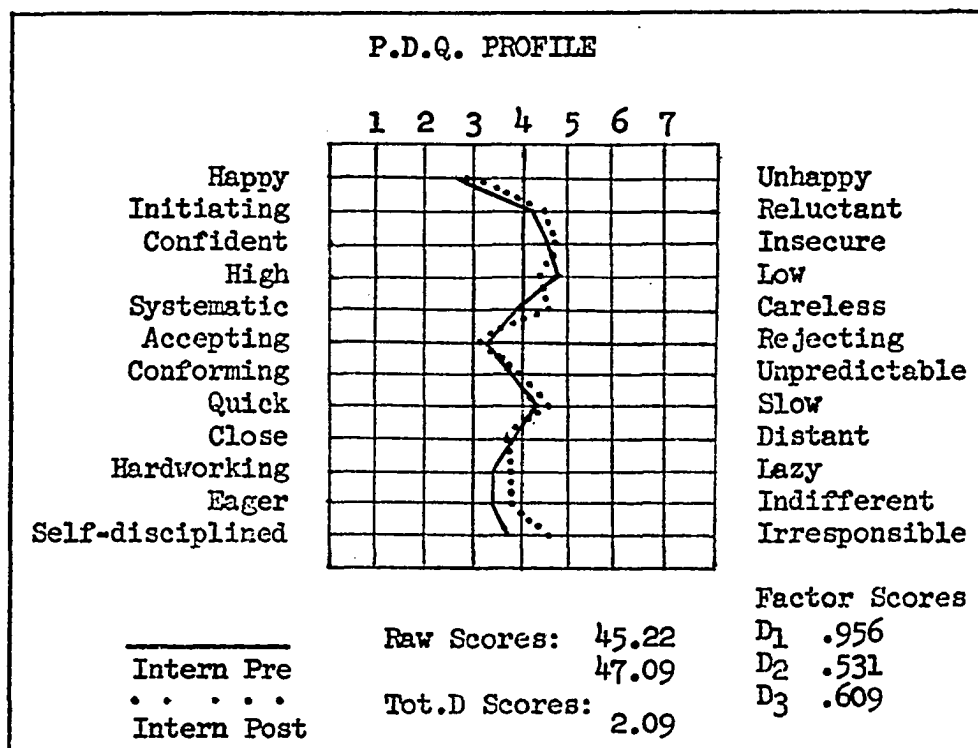


FIGURE 26
HIGH VICS INTERNS' PRE AND POST-RATINGS
FOR UNKNOWN PUPILS

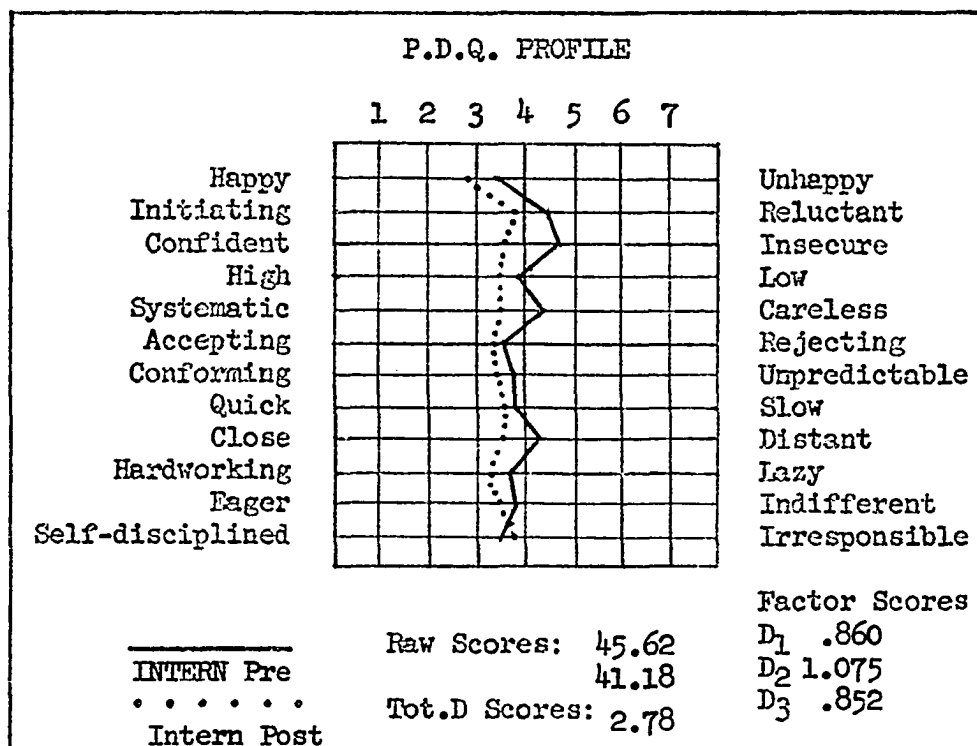


FIGURE 27
LOW VICS INTERNS' PRE AND POST-RATINGS
FOR UNKNOWN PUPILS

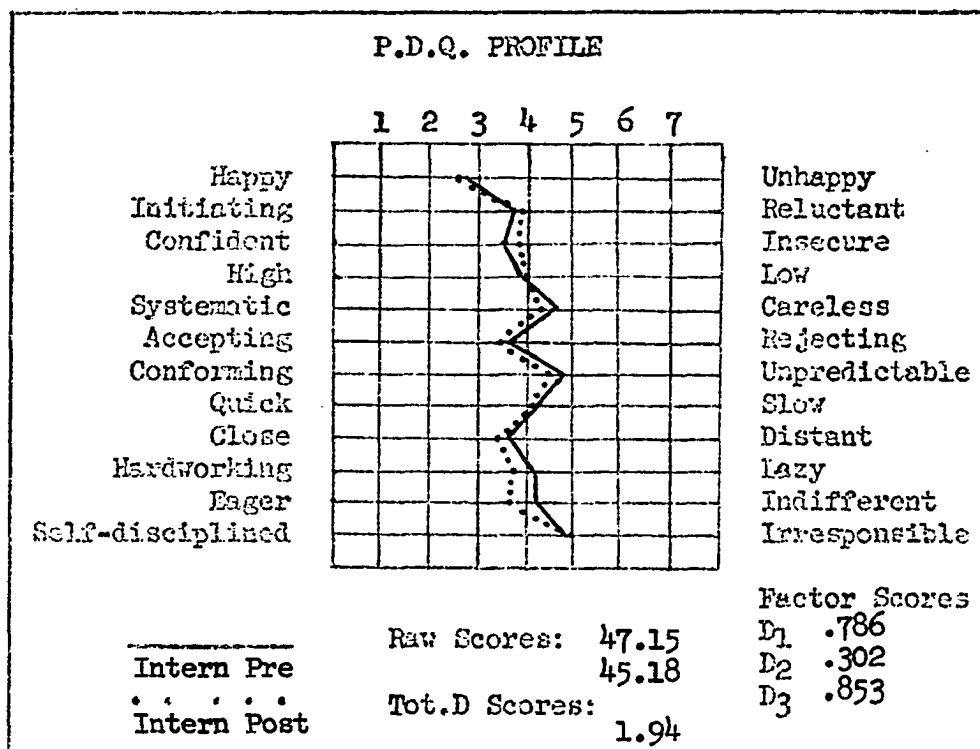


FIGURE 28
HIGH VICS INTERNS' PRE AND POST RATINGS
FOR REJECTION PUPILS

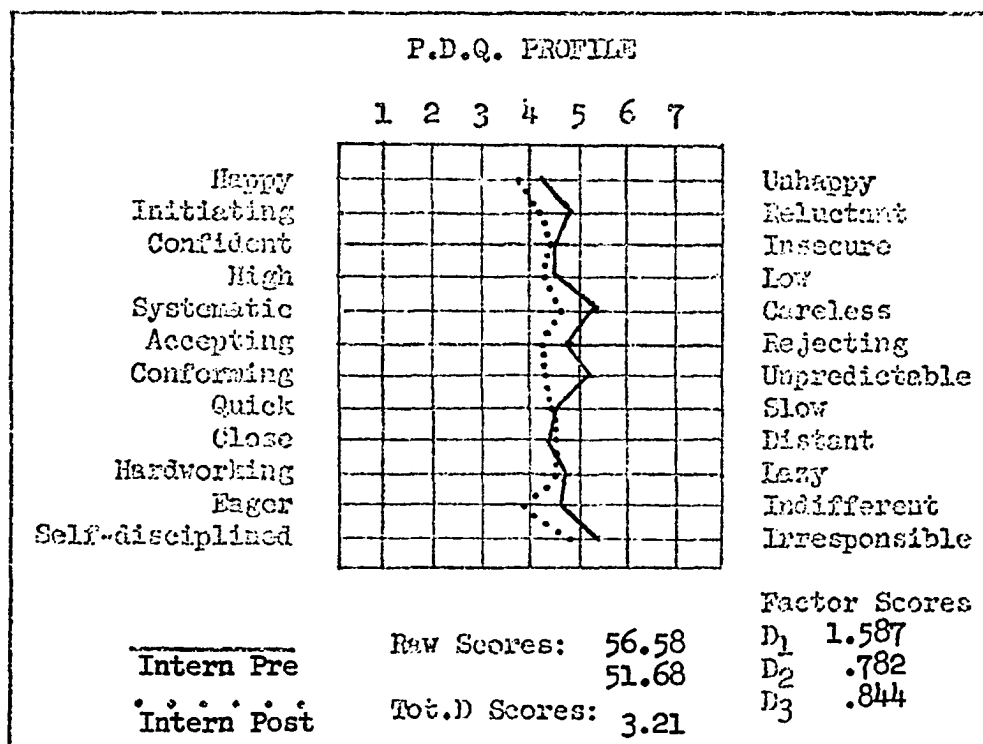


FIGURE 29
LOW VICS INTERNS' PRE AND POST-RATINGS
FOR REJECTION PUPILS

perceived less changes on the Personality factor for the four pupil groups.

Intern teachers' pre-ratings and post-ratings by VICS groups.

A comparison of the high VICS intern teachers' pre-ratings and post-ratings with the low VICS interns' pre-ratings and post-ratings are presented in figures 30-37. These profiles indicated that the high VICS intern teachers pre and post-rated the acceptance and rejection pupil groups higher than did the low VICS interns. The total pre and post D score differences between the intern groups for the acceptance pupils were small (pre total D = 1.93; post total D = 2.51). The changes in the total D score differences occurred with the high VICS interns for the acceptance pupils. The profiles for the other three pupil groups showed that the changes in total D score differences occurred for the low VICS interns. The total D score between the VICS intern groups increased over the semester for the acceptance and unknown pupil groups and decreased for the concern and rejection pupil groups. The post-rating total D scores indicated that the VICS intern groups perceived the pupils at more distance from one another than they did from their cooperating teachers.

The factor D scores for profiles 30-37 indicated that the VICS intern groups post-rated the concern, unknown, and acceptance pupil groups more distant on the Achievement factor and more similarly on the Personality factor. The rejection pupil group was post-rated by the VICS intern groups most distant on the Personality factor and most similarly on the Achievement factor.

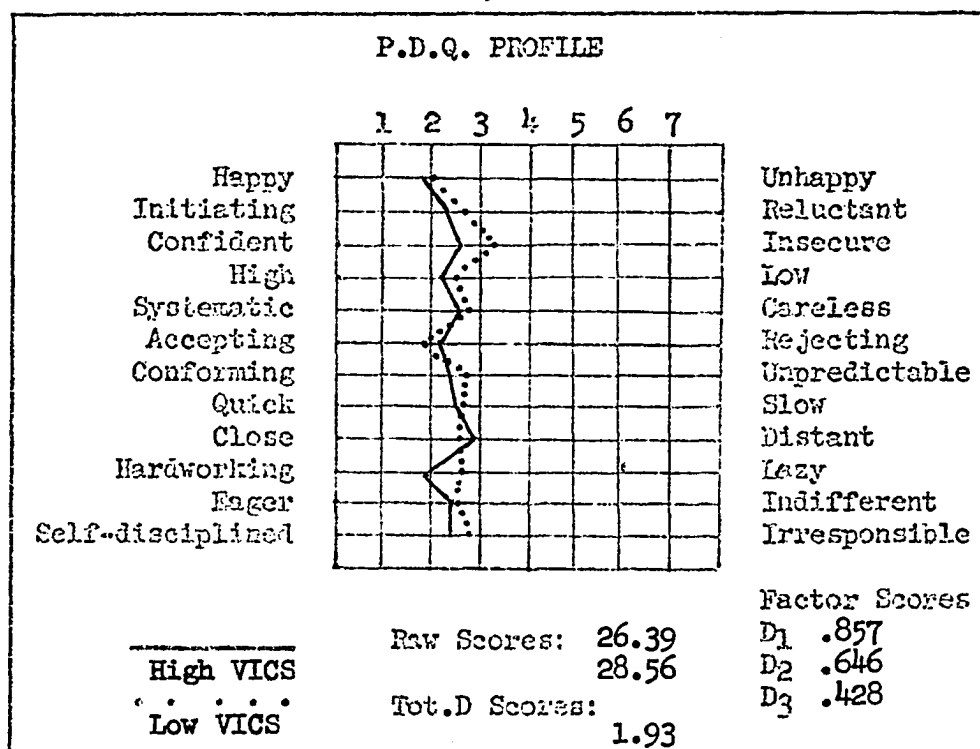


FIGURE 30
HIGH VICS INTERNS' AND LOW VICS INTERNS'
PRE-RATINGS FOR ACCEPTANCE PUPILS

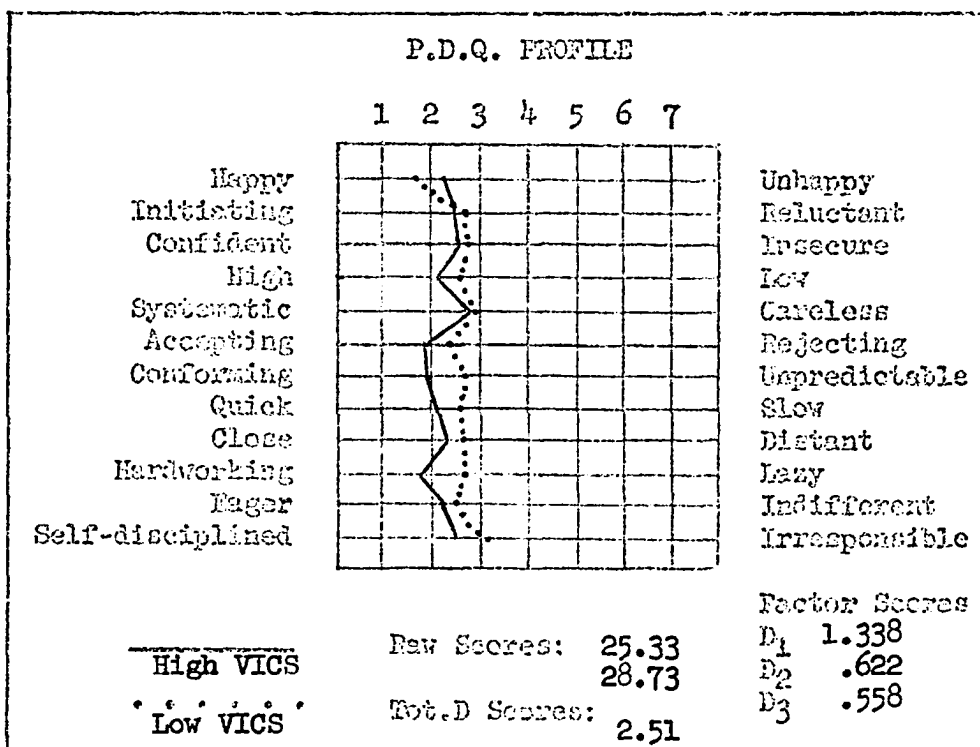


FIGURE 31
HIGH VICS INTERNS' AND LOW VICS INTERNS'
POST-RATINGS FOR ACCEPTANCE PUPILS

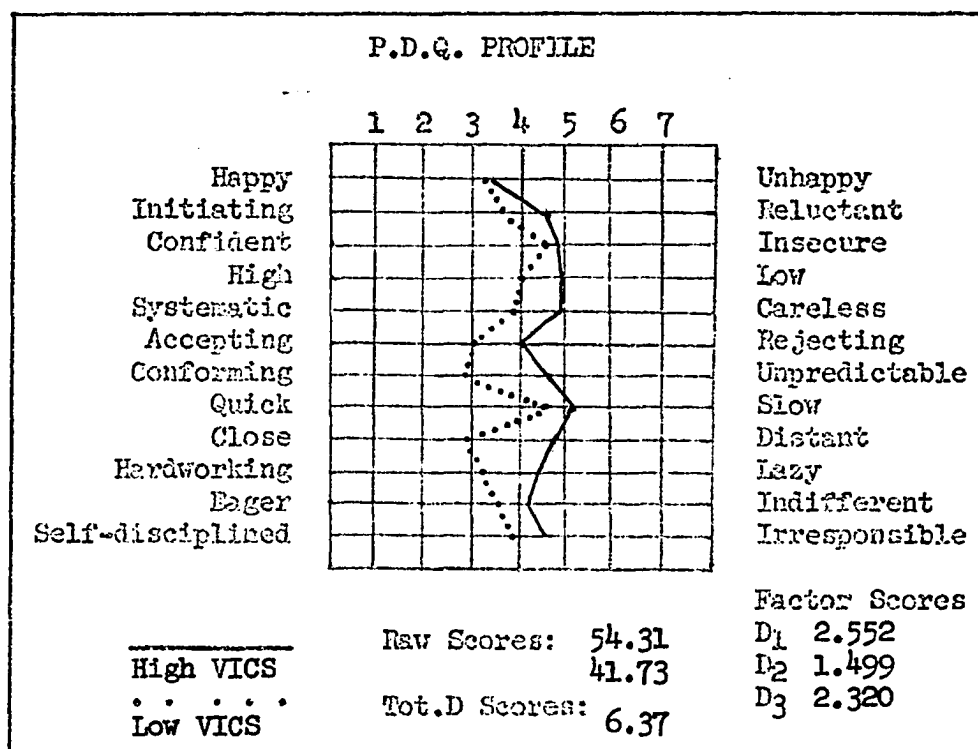


FIGURE 32
HIGH VICS INTERNS AND LOW VICS INTERNS
PRE-RATINGS FOR CONCERN PUPILS

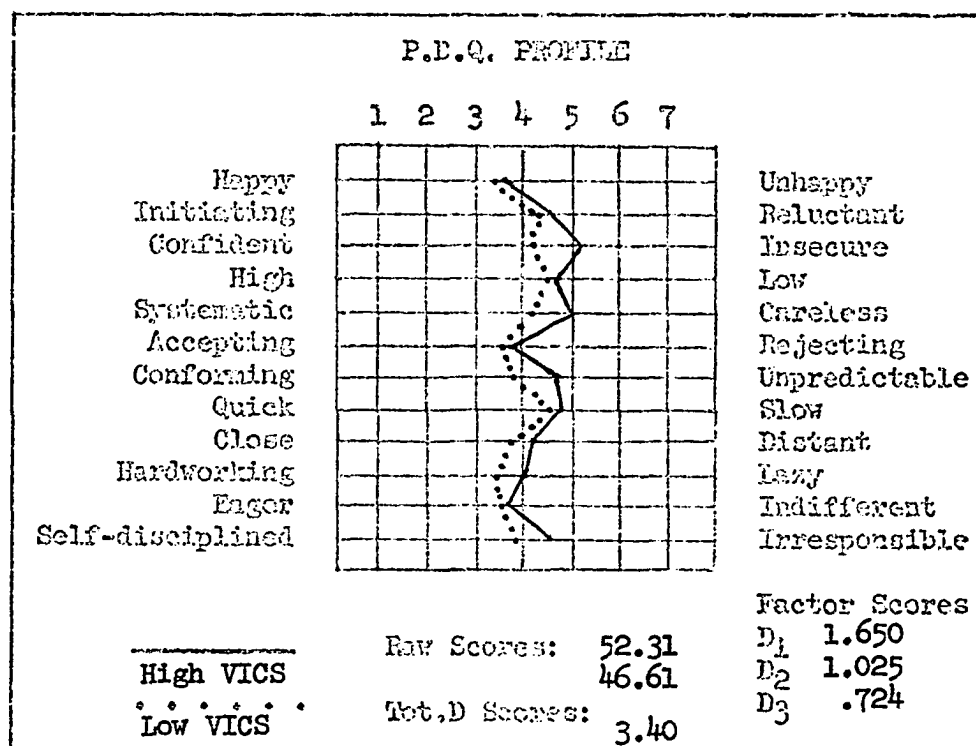


FIGURE 33
HIGH VICS INTERNS' AND LOW VICS INTERNS'
POST-RATINGS FOR CONCERN PUPILS

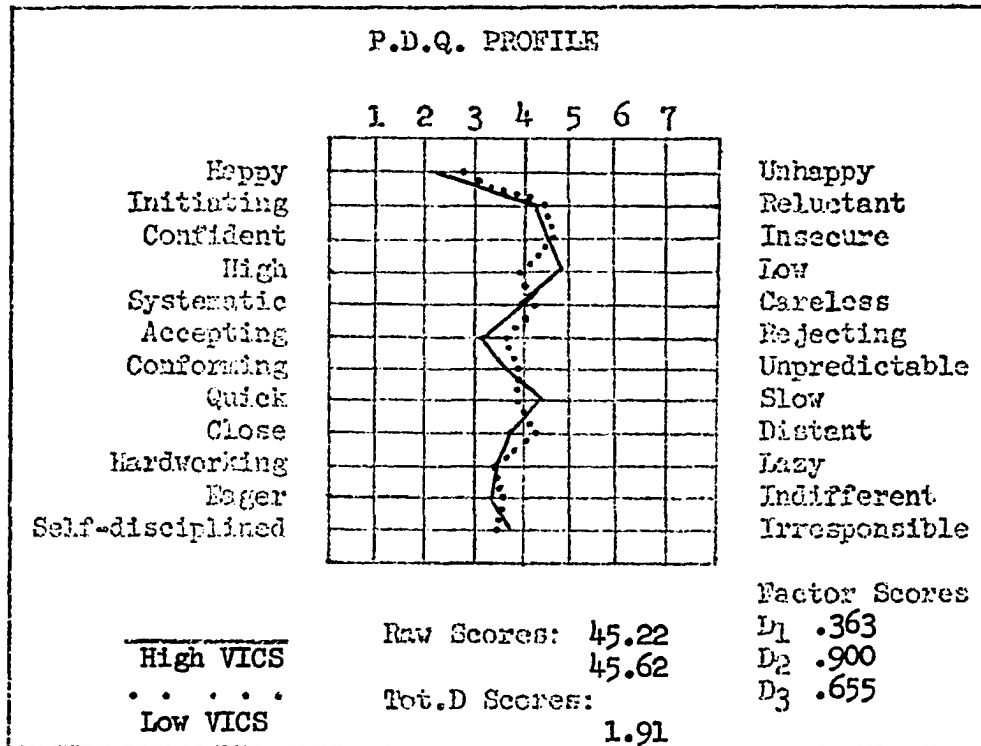


FIGURE 34
HIGH VICS INTERNS' AND LOW VICS INTERNS'
PRE-RATINGS FOR UNKNOWN PUPILS

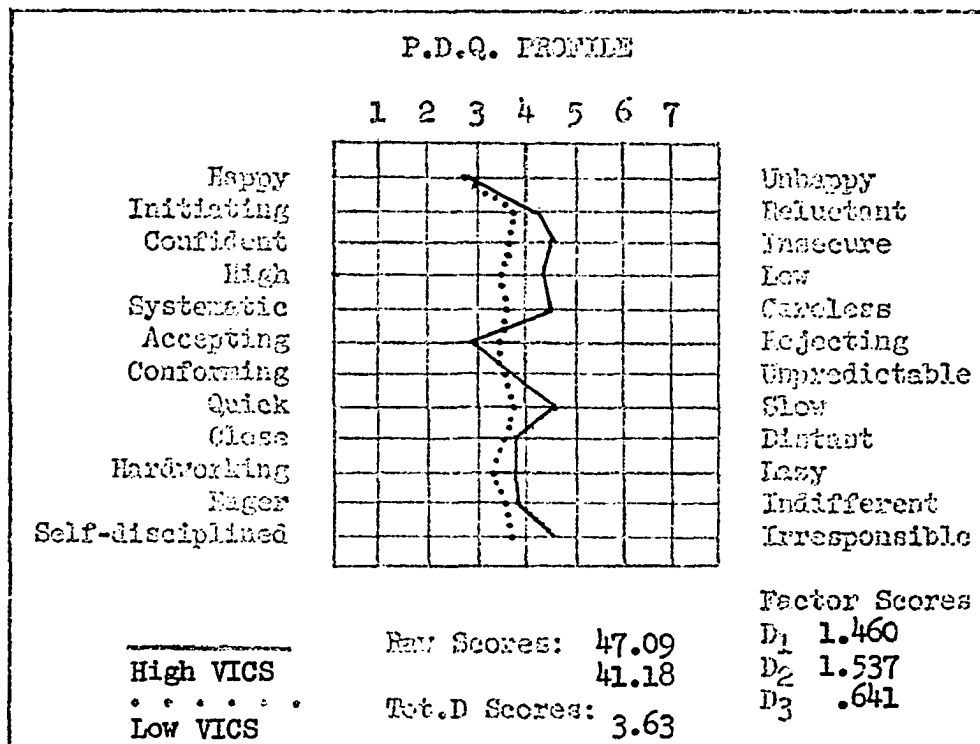


FIGURE 35
HIGH VICS INTERNS' AND LOW VICS INTERNS'
POST-RATINGS FOR UNKNOWN PUPILS

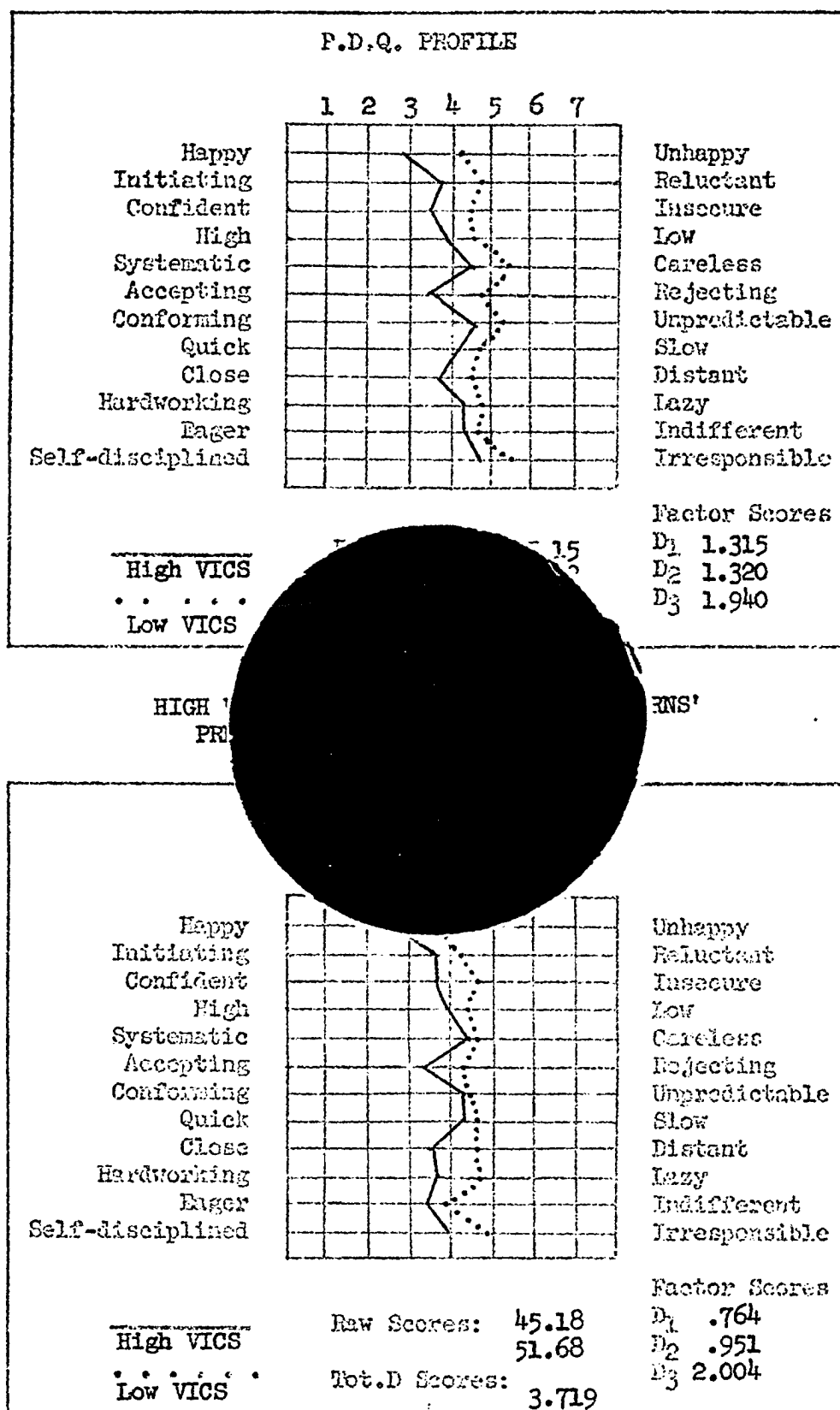


FIGURE 37
HIGH VICS INTERNS' AND LOW VICS INTERNS'
POST-RATINGS FOR REJECTION PUPILS

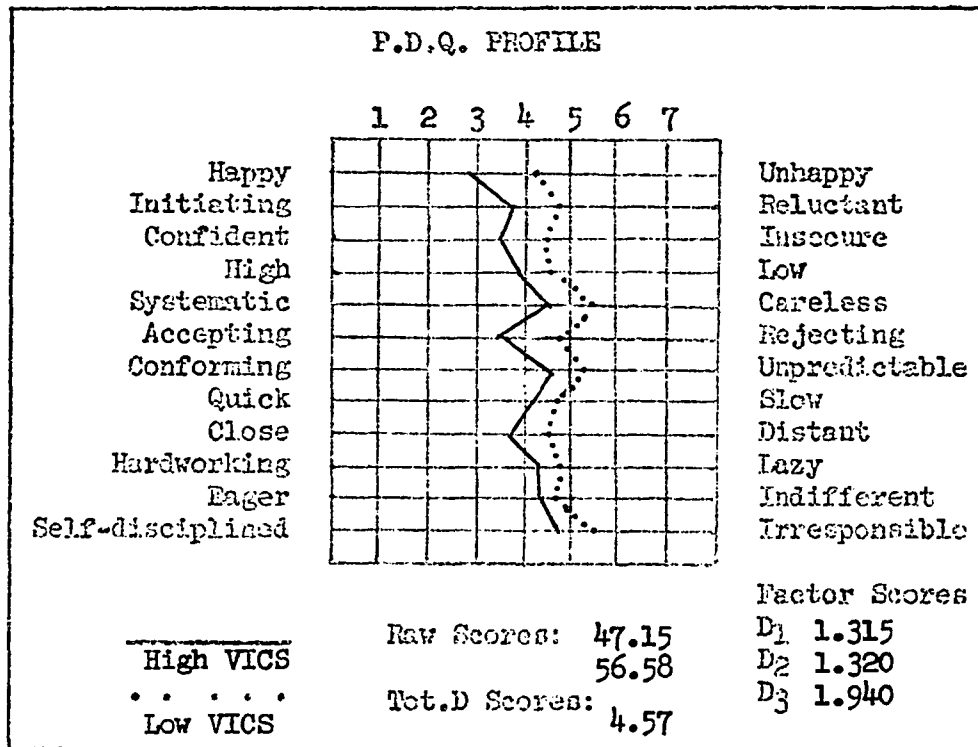


FIGURE 36
HIGH VICS INTERNS' AND LOW VICS INTERNS'
PRE-RATINGS FOR REJECTION PUPILS

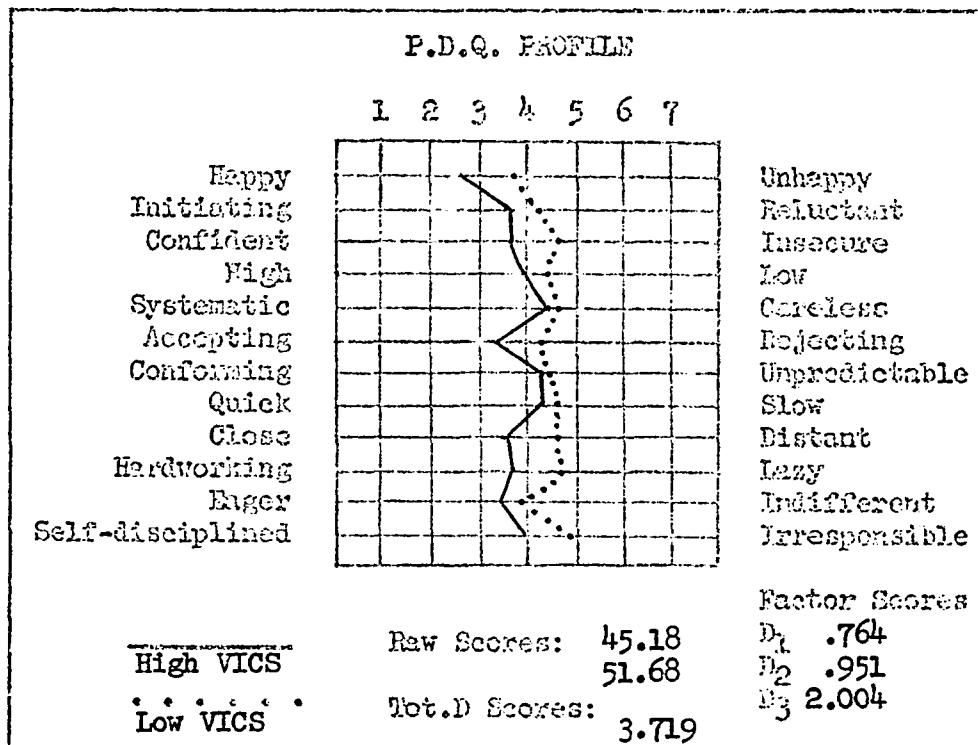


FIGURE 37
HIGH VICS INTERNS' AND LOW VICS INTERNS'
POST-RATINGS FOR REJECTION PUPILS

Analysis of DataMTAI ANOVA Results

A two-way ANOVA was used to test the hypotheses that the difference between the intern teachers' pre-test MTAI and post-test MTAI scores were related to the intern teachers' knowledge of VICS and the cooperating teachers' pre-test MTAI scores. Table 6 reports the ANOVA results. The F values for the interns' changes in MTAI scores over the semester were not significant ($F = 3.185, p < .05$).

Hypothesis 1 stated, "There is no significant relationship between the difference in intern teachers' pre-test and post-test MTAI scores when the cooperating teachers' pre-test MTAI is greater than the intern teachers' pre-test MTAI and the intern teachers' knowledge of VICS is high". The hypothesis could not be rejected.

Hypothesis 2 stated, "There is no significant relationship between the difference in intern teachers' pre-test and post-test MTAI scores when the cooperating teachers' pre-test MTAI score is greater than the intern teachers' pre-test MTAI and the intern teachers' knowledge of VICS is low". The hypothesis could not be rejected.

Hypothesis 3 stated, "There is no significant relationship between the difference in intern teachers' pre-test and post-test MTAI scores when the cooperating teachers' score on the pre-test MTAI is less than the intern teachers' pre-test MTAI and the intern teachers' knowledge of VICS is high". The hypothesis could not be rejected.

Hypothesis 4 stated, "There is no significant relationship

TABLE 6

ANALYSIS OF VARIANCE FOR DIFFERENCE IN
INTERN TEACHERS PRE-POST MTAI SCORES

COOPERATING TEACHERS' MTAI PRE-TEST VS. INTERN TEACHERS' PRE-TEST SCORE				
	COOP < INTERN		COOP > INTERN	
SCORE + .25S	M = 12.5		M = 5.6	M = 8.66
	<u>S</u> = 8.62		<u>S</u> = 10.61	<u>S</u> = 10.35
	<u>N</u> = 4		<u>N</u> = 5	
INTERNS' KNOWLEDGE OF VICS	M = 20.5		M = 14.85	M = 16.11
	<u>S</u> = 2.50		<u>S</u> = 13.92	<u>S</u> = 12.55
	<u>N</u> = 2		<u>N</u> = 7	
SCORE - .25S	M = 15.16		M = 11	
	<u>S</u> = 8.12		<u>S</u> = 13.45	
SOURCE	SS	df	MS	F value
Row	249.38	1	249.38	1.970
Column	93.38	1	93.38	.741
Interaction	401.39	1	401.39	3.185
Error	1890.12	15	126.00	
Total	2634.27	18		

*f (1, 15) = 4.54 p > .05

between the difference in intern teachers' pre-test and post-test MTAI scores when the cooperating teachers' score on pre-test MTAI is less than the intern teachers' pre-test MTAI and the intern teachers' knowledge of VICS is low". The hypothesis could not be rejected.

PDQ ANOVA Results

A one-way ANOVA was used to test the hypothesis that the intern teachers' post PDQ ratings were related to their knowledge of VICS. Table 7 reports the ANOVA results. The F value was not significant ($F = 1.113$, $p < .05$).

TABLE 7

POST P.D.Q. ANOVA BY INTERNS' KNOWLEDGE OF VICS

INTERN TEACHERS' KNOWLEDGE OF VICS				
	.25S	+ .25 M	-.25	-.25S
POST PDQ	M = 8.78	M = 8.79	M = 9.56	M = 9.084
D SCORE	$\bar{S} = 1.25$	$\bar{S} = 1.66$	$\bar{S} = .78$	$\bar{S} = 8.65$
	N = 10	N = 5	N = 9	N = 24

SOURCE	SS	df	MS	F
Treatments (between)	3.38	2	1.69	1.113
Error (within)	31.882	21	1.518	
Totals	35.262	23		

* $F(2, 21) = 3.47$ $p > .05$

Hypothesis 5 stated, "There is no significant relationship between the interns' post-test PDQ score and the interns' level of knowledge of VICS, high or low". The hypothesis could not be rejected. ($F = 1.113$; $p < .05$)

The changes in the intern teachers' PDQ ratings over the semester were analyzed using a one-way ANOVA on each of the factors of the PDQ. The ANOVA on the Achievement factor is reported in Table 8. The F value of 1.72 was not significant. ($F = 1.72$, $p < .05$).

TABLE 8

ACHIEVEMENT FACTOR ANOVA BY INTERNS' KNOWLEDGE OF VICS

INTERN TEACHERS' KNOWLEDGE OF VICS				
	.25S	+.25S M	-.25S	-.25S
ACHIEVEMENT	M = 2.81	M = 3.00	M = 2.27	M = 2.75
FACTOR PRE-	S = 2.93	S = 3.12	S = 2.24	S = 2.85
POST D SCORE	N = 68	N = 50	N = 35	N = 153

SOURCE	SS	df	MS	F
Treatments (between)	11.34	2	5.67	1.72
Error (within)	494.02	150	3.29	
Totals	505.36	152		

* $F(2, 150) = 3.00$ $p > .05$

Hypothesis 6 stated, "There is no significant relationship between the change in score on the Achievement factor of intern teachers' PDQ pre-test and post-test when the intern teachers' knowledge of VICS is high". The hypothesis could not be rejected.

Hypothesis 7 stated, "There is no significant relationship between the change in score on the Achievement factor of the intern teachers' PDQ pre-test and post-test when the intern teachers' knowledge of VICS is low. The hypothesis could not be rejected.

The ANOVA on the Personality factor scores for the intern teachers' PDQ ratings are reported in Table 9. The F value of 4.473 was significant at the .025 level. ($F = 4.473, p > .025$)

TABLE 9

PERSONALITY FACTOR ANOVA BY INTERNS' KNOWLEDGE OF VICS

	INTERN TEACHERS' KNOWLEDGE OF VICS			
	.25 <u>S</u>	.25 <u>S</u> - .25	-.25 <u>S</u>	
PERSONALITY	$\bar{M} = 2.54$	$\bar{M} = 2.78$	$\bar{M} = 1.78$	$\bar{M} = 2.45$
FACTOR PRE-	$\bar{S} = 2.46$	$\bar{S} = 2.94$	$\bar{S} = 1.54$	$\bar{S} = 2.46$
POST D	$\bar{N} = 68$	$\bar{N} = 50$	$\bar{N} = 35$	$\bar{N} = 153$
SCORES				

SOURCE	SS	df	MS	F
Treatments (between)	21.65	2	10.82	4.473 *
Error (within)	363.35	150	2.42	
Totals	385.00	152		

*F (2, 150) = 3.00 $p > .025$

Hypothesis 8 stated, "There is no significant relationship between the change in score on the Personality factor of the intern teachers' PDQ pre-test and post-test when the intern teachers' knowledge of VICS is high". The hypothesis was rejected.

Hypothesis 9 stated, "There is no significant relationship between the change in score on the Personality factor of the intern teachers' PDQ pre-test and post-test when the intern teachers' knowledge of VICS is low". The hypothesis was rejected.

TABLE 10
ABILITY FACTOR ANOVA BY INTERNS' KNOWLEDGE OF VICS

INTERN TEACHERS' KNOWLEDGE OF VICS				
	.25	.25 X -.25	-.25	
ABILITY	X = 2.60	X = 3.66	X = 2.55	X = 2.94
FACTOR PRE-	= 2.60	= 3.72	= 2.44	= 2.98
POST D	N = 68	N = 50	N = 35	N = 153
SCORES				

SOURCE	SS	df	MS	F
Treatments (between)	39.46	2	19.73	8.50 *
Error (within)	348.38	150	2.32	
Totals	488.38	152		

*F (2, 150) = 4.61 $p > .01$

The ANOVA results on the Ability factor of the PDQ are reported in Table 10. The F value of 8.50 was significant at the .01 level. ($F = 8.50, p > .01$)

Hypothesis 10 states, "There is no significant relationship between the change in score on the Ability factor of the intern teachers' PDQ pre-test and post-test when the intern teachers' knowledge of VICS is high". The hypothesis was rejected.

Hypothesis 11 states, "There is no significant relationship between the change in score on the Ability factor of the intern teachers' PDQ pre-test and post when the intern teachers' knowledge of VICS is low". The hypothesis was rejected.

PDQ Mann Whitney U Results

The profiles comparing the high VICS intern teachers' and low VICS intern teachers' total D scores were analyzed using the Mann Whitney U (MWU) test statistic. The use of this non-parametric statistic for D score comparisons was recommended by Osgood, Suci, and Tannenbaum (1957, p. 102).

The analysis indicated that the comparison of the intern teachers' post-rating total D scores with the cooperating teachers' post-rating total D scores on the PDQ had a Z score that exceeded .04 for the concern pupil group; .025 for the unknown pupil group; .005 for the acceptance pupil group; .003 for the rejection pupil group. The results indicated that the post-rating total D scores were different for the VICS intern groups at greater than a 96% probability.

The comparison of the high VICS interns' and low VICS interns' pre-test total D scores and post-test total D scores showed

a \underline{Z} score that exceeded $p > .08$ for the rejection pupils; $p > .08$ for concern pupils; $p > .007$ for unknown pupils. The total D score comparison for acceptance pupils indicated that these pupils were perceived differently between the Intern groups as compared by the D score differences with $p > .21$. The comparison of the high VICS and low VICS interns' pre and post-rating differences showed changes that were significant beyond a 92% probability for the concern, unknown, and rejection pupils.

The comparison of the pre-ratings total D scores by intern VICS group to the cooperating teachers' pre-ratings total D scores showed the unknown pupil group to be the most significant ($p > .002$). The acceptance, concern, and rejection pupil groups were pre-rated differently by intern VICS group with a probability that exceeded 88%.

The intern teachers' pre-rating to post-rating total D scores when compared by VICS group reached a probability greater than .08 for the rejection pupils; .14 for the concern pupils; .23 for the acceptance and unknown pupil groups.

These MWU statistics indicated that the post-ratings of the four pupil groups were differentiated by the level of VICS knowledge of the interns. The intern VICS groups also showed differences in pre and post-ratings.

Summary

This chapter presented the data that was collected and the results of the analyses that were performed. The following chapter includes a discussion of the data analyses.

CHAPTER IV

SUMMARY, DISCUSSION OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Summary

The purpose of this study was to investigate the effects of the training and use of interaction process analysis upon the attitudes and attributions of intern teachers in the elementary classroom. The expectations of teachers toward pupils have been shown to have effects upon the performance and attitudes of pupils (Flanders, 1970, p. 79). The use of interaction analysis with intern teachers has indicated that teachers can be trained to use more praise, restating of pupil ideas, more flexible questioning behaviors, etc. (Amidon, 1967, p. 74). Research into the processes of attribution has shown that repeated positive interactions create more assumed similarity leading to more positive attributions (Newcomb, 1953, p. 393).

The problem of this study was to determine if there were significant relationships between the intern teachers' knowledge of the Verbal Interaction Categorization System and their attitudes as measured by the Minnesota Teacher Attitude Inventory (MtAI), and the intern teachers' attributions toward pupils as measured by the Pupil Description Questionnaire (PDQ).

The sample for this study was twenty-six elementary intern teachers teaching during the Fall semester 1978. The intern teachers were assigned to elementary classrooms for a sixteen week semester. The interns received instruction in the Verbal Interaction Categorization System (VICS) and used VICS in micro-teaching lessons and in analyses of lessons taught by peers.

The data collection included pre-tests and post-test using the Minnesota Teacher Attitude Inventory (MTAI). The MTAI was administered to the intern teachers and the cooperating teachers with whom they were teaching. Attributions toward individual pupils by the teachers were measured using a semantic differential instrument developed for this study. The Pupil Description Questionnaire (PDQ) was given to the cooperating teachers and intern teachers during the second and sixteenth weeks of the intern teaching semester. Eight students selected by the cooperating teacher were rated on the PDQ in each of the intern teacher's classrooms. Comparisons of the intern teachers by their level of knowledge of VICS were used in ANOVA analyses of the MTAI scores and PDQ ratings. The PDQ ratings were also compared using MWU analyses.

Disucssion of Findings

The results of the analysis of variance on the intern teachers' post MTAI scores indicated that the general attitudes measured by the MTAI did not change significantly. The generalized attitudes did show a change within the intern teachers' scores

and the cooperating teachers' scores. The pre to post-MTAI scores decreased for the intern teachers and the cooperating teachers. The size of the change from pre to post was virtually the same for both groups with less than 0.04 of a raw score point difference between the post-test changes. The correlations between the pre-post MTAI for the intern teachers was .86 and for the cooperating teachers .76. The correlations between the pre-test MTAI for the intern and the cooperating teacher was .20 and on the post-test MTAI .12. The lack of correlation between the intern teachers' attitudes and their cooperating teachers' attitudes as measured by the MTAI in this study needs additional investigation.

The intern teachers' MTAI scores did not move in the direction of the cooperating teachers' MTAI scores as had been expected from previous research studies (Furst, 1967; Stoller, 1964; Yee, 1969; Zahn, 1967). The lack of convergence was investigated using a one way ANOVA analysis on the intern teachers' post MTAI score by the knowledge level of VICS. The resulting F value of 6.53 was significant at $p > .025$. This analysis indicated that the knowledge level of VICS was significant in the intern teachers' post-test MTAI score. The two-way analysis of variance reported in Chapter III did not reach significance but the F value for interaction approached the .05 level. Any effects of pre-attitudes as measured by the MTAI and the VICS training as measured by the VICS exam were not substantiated by the data.

The profiles for PDQ ratings reflected the changes in perceptions of pupil characteristics over the sixteen week semester.

The analyses of the factor score differences indicated that the factor scores for the interns were related to the VICS knowledge of the interns on the Ability and Personality factors.

It was found that the Achievement factor did not show a significant difference between the intern groups. The Achievement factor would seem to be a very powerful influence upon the attributed characteristics of pupils. The data from the ANOVA and the profiles indicated that on the Achievement factor the interns rated the pupils more similarly between pre and post comparisons. For the two intern groups there was a difference between their agreement with the cooperating teachers but the size of the difference and the changes were uniform between the two groups. It seems that the interns were able to judge the performance, i.e. achievement, of pupils similarly. This is logical in terms of the use of observable behavior as a measure of achievement; the amount of self-discipline, hardwork, systematic and conforming work done by pupils was an objective piece of data which the interns perceived in similar ways.

The similarity of the interns' perceptions seen in the pupil achievement data was not found in their perceptions of pupil ability and personality. The VICS intern groups perceived of the Ability and Personality factors differently. This was interpreted as indicating that the classroom interactions of the pupils with the cooperating and intern teachers affected the VICS intern groups' perceptions differently. The high VICS interns were more observant or they interacted differently from the low VICS interns with the pupils. The interaction pattern of intern teachers trained in interaction

process analysis has been shown to affect the amount of praise used, the use of student ideas, and encouraging more pupil talk (Bondi, 1969; Finske, 1967; Furst, 1965). The high VICS interns patterns of interaction were assumed to be more positive with the pupils thereby affecting their perceptions of pupil personality and ability. The low VICS interns did not perceive changes in the Ability and Personality factors as did the high VICS interns.

The data arranged by VICS intern groups indicated that over-all the high VICS interns were in agreement with their co-operating teachers and consistent in their ratings across time and across pupil groups. Compared to the high VICS interns, the low VICS interns generally rated the pupils more distant from their cooperating teachers' ratings and were more changeable in their ratings. The intern and cooperating teachers perceived the four pupil groups as having characteristics which made the groups distinct. Perceived changes in pupil characteristics over the 16 week semester did not alter the placement of the pupil groups in relation to one another.

The findings for the ratings of each of the pupil groups indicated that the rejection pupil group changed the most in the perceptions of the intern teachers and cooperating teachers. The perceived changes were related to both the characteristics which have been shown to be associated with the pupil groups (Silberman, 1969; Brophy & Good, 1970, 1974) and with the interaction patterns that were expected for the VICS intern groups, i.e., the high VICS interns were more positive than the low VICS interns in their interactions (Kirk, 1967).

The profiles for the acceptance pupils indicated that these pupils were rated very positively on all comparisons and all ratings. These pupils seem to do most things well. Research by Silberman (1969) and Brophy and Good (1972) indicated that the acceptance pupils seek out the teacher more often and avoid violating classroom norms. The teachers may try to minimize their contacts with the acceptance pupils due to professional feelings that they should not favor any pupil. Brophy and Good (1972) pointed out, however, that "these students appeal to teachers because they appear to be bright, hard-working, no-nonsense students" (p. 620). The intern teachers seemed to also perceive these pupils in very positive ways. The high VICS interns rated these pupils more positively than the low VICS interns. The interaction between the intern teachers and these pupils may be less frequent than with the other three pupil groups because these pupils need less help. Generally the intern teachers work more with those pupils who are perceived as needing more teacher assistance. The intern teachers' interactions with the acceptance pupils would usually be positive. The lack of convergence and the lower total ratings for the acceptance pupils by the low VICS interns was interpreted as indicating that they did not perceive the interactions between the cooperating teacher and these pupils with the same observational skills as the high VICS interns.

The profiles for the concern pupil group indicated that the VICS intern groups perceived the Ability factor differently on the pre-ratings. The concern pupils are characterized by Brophy and Good (1972) as the pupils who received the most teacher attention

(p. 621). These pupils received more interactions than their classmates; teachers responded more favorably to their failures than with other pupils; these pupils received more learning attention (less behavioral) from the teacher (Brophy & Good, 1972, p. 621). These more frequent teacher-pupil interactions would be expected to create more influence upon the attributions of the intern teachers with a convergence toward the cooperating teachers' ratings. The high VICS interns did converge on their post-ratings mainly on the Personality factor; they did not change their ratings on the Ability factor. The low VICS interns convergence occurred only on the Ability factor. The classroom difficulties of the concern pupils seemed to affect the pre-rating attributions of the high VICS interns on the personal involvement of these pupils in the classroom. The low VICS interns attributed more ability to these concern pupils on the pre-rating than they did on the post-rating. Research has indicated that teacher expectations may affect the type of interaction between teacher and pupil (Brophy & Good, 1970; Rowe, 1969). The teacher's expectations may cause her to present lesson materials differently to pupils (Beez, 1968; Rubovits & Maehr, 1973). A teacher expectancy effect, however, was not observed for the low VICS interns for the concern pupils. The effects of the performance of these pupils may have been a more important factor than the low VICS intern teachers' expectations, with decreasing expectations occurring concerning the ability of these pupils. The high VICS interns did not attribute changes on the Ability factor for the concern pupils.

The profiles for the unknown pupil group were expected to

indicate ratings that were based on few observed interactions between the cooperating teacher and these pupils. Unknown pupils are characterized by few initiations toward the teacher and fewer contacts from the teacher than other pupils (Brophy & Good, 1972).

The post-ratings were expected to show some changes due to the experimenter effect of calling attention to these pupils. The effects of any extra attention shown toward these pupils was not as strong upon the high VICS interns as on the low VICS interns. The low VICS interns' ratings became more similar to their cooperating teachers' ratings. The high VICS interns did not converge toward their cooperating teachers' ratings for the unknown pupil groups. However, the high VICS interns' pre-ratings were more similar to the cooperating teachers' pre-ratings than the low VICS interns' post-ratings were to their cooperating teachers' post-ratings.

The profiles for the rejection pupil group showed that the greatest changes in perceived pupil characteristics occurred for this pupil group. The interpretation of these changes involved the probability that these rejection pupils were more often taught by the interns during the earlier part of the semester (a regular practice in intern teaching at this university). The intern teachers' close work with these pupils, and the perceived behavioral changes of these pupils may have affected the perceptions of their characteristics more than for the other three pupil groups. The post-ratings for the high VICS interns showed that the high VICS interns pre and post-rated the rejection pupils similarly. The cooperating teachers

ratings converged toward the ratings of the high VICS interns. No similar convergence was found for the cooperating teachers with the low VICS interns. The convergence of the low VICS interns' post-ratings for the rejection pupil group was a change in the interns' attributions rather than the cooperating teachers' attributions. The high VICS interns pre-ratings for the rejection pupils were more positive than their cooperating teachers' ratings. This was the only profile that showed a pre-rating that was higher for the interns than their cooperating teachers' pre-ratings.

These differences in the VICS intern groups' ratings for the rejection pupils may be interpreted several ways. The intern groups perceived these rejection pupils differently on the pre-ratings and post-ratings. The high VICS interns also perceived these rejection pupils as being higher in ability, personality and achievement on the pre-ratings than did their cooperating teachers. It may be that these high VICS interns responded to these pupils in more positive ways than their cooperating teachers. Based upon the attributed characteristics, these pupils may have become more capable, work-oriented, etc. in the perceptions of the high VICS interns' cooperating teachers. This would support a self-fulfilling attribution toward these pupils by the high VICS interns. The influence concerning the characteristics of these pupils affected only the cooperating teachers who worked with the high VICS interns. The pattern of interaction that was used by the high VICS interns may have created a more positive learning environment for these rejection pupils which changed the perceptions of their cooperating teacher

toward the pupils. This interpretation would indicate that the VICS pattern may have affected the ratings of the interns as well as the cooperating teachers. This would contradict the findings of Moskowitz (1967) concerning the influence of trained intern teachers on the attitudes of untrained cooperating teachers.

Conclusions

The following conclusions were drawn from the data:

- (1) The attitudes measured by the MTAI were related to the intern teachers' knowledge of VICS.
- (2) The intern teachers' knowledge of VICS was not related to the pre-test differences in MTAI scores of the interns and cooperating teachers.
- (3) The intern teachers' PDQ ratings of pupils were related to the intern teachers' knowledge of VICS on the Personality and Ability factors but not on the Achievement factor. The objective data provided by pupil achievement did not affect the attributions of the VICS intern teacher groups on the personality and ability characteristics of the pupils.
- (4) The intern teachers' PDQ post-ratings were related to the intern teachers' knowledge of VICS when compared to their cooperating teachers' post-ratings. The high VICS interns post-rated the four pupil groups more similarly to their cooperating teachers' ratings than did the low VICS interns.
- (5) The high VICS interns pre-rated the pupils more similarly to the cooperating teachers than the low VICS interns post-rated the pupils similarly to their cooperating teachers. The high VICS interns perceived the pupils' characteristics after two

weeks of work with them more similarly to the cooperating teachers than the low VICS interns rated the pupils after sixteen weeks of work with them.

Interpretation

Interpretation beyond the findings of the data in this study allowed for some further statements.

(1) The cooperating teachers' pre to post-ratings were slightly more positive for all pupil groups. This may have indicated an ego-defensive attribution, i.e., pupils should be post-rated higher if I have taught them well.

(2) The expected greater frequency of positive interactions between the cooperating teachers and the acceptance pupils may have affected their ratings. The small pre to post-ratings changes for these pupils indicated that the perceptions from the pre-ratings did not change over the sixteen week term. A halo effect may be operating in these pupils' favor as indicated in this study.

(3) The effects of the VICS training operated differently upon the interns. If the high VICS interns were affected more greatly by the VICS training, then the personal characteristics and the VICS training program need further investigation.

(4) The increase in VICS knowledge of the high VICS interns was shown to affect the attributions of the interns. It is assumed that the more the interns interacted with the pupils in positive ways, the reciprocal positive response of the pupils created more perceived similarity between the interns and pupils. This positive affective response is important in the self-image of pupils and may be directly related to the use of VICS.

Recommendations

The following recommendations for further research on the effects of VICS and teacher attribution are made:

1. The attributions of intern teachers toward pupils should be studied through observations of the intern teachers' classroom verbal behaviors using VICS.
2. Training in VICS with video-tape feedback for experienced teachers and the relationship of their pre-training and post-training attributions toward pupils should be investigated.
3. Correlations between the attributions and observed verbal behaviors of the cooperating teachers with the attributions and observed verbal behaviors of the intern teachers should be investigated.
4. The influence of VICS training on the generalized attitudes of the intern and cooperating teachers should be investigated further.
5. The attributions of experienced teachers toward the pupils in their classrooms should be investigated in longitudinal research to study the teacher's attribution patterns with different classroom groups.
6. The attributions of experienced teachers toward pupil groups should be investigated in longitudinal research to study the stability of attributions within the pupil group working with different teachers.
7. The lack of convergency between the MTAI scores of the intern and cooperating teachers and the relationship to VICS training should be investigated further.

REFERENCES

- Adams, R. and Biddle, B. Realities of teaching: explorations with videotape. New York: Holt, Rinehart, and Winston, 1970.
- Adams, G. R. and Cohen, A. S. Characteristics of children and teacher expectancy: an extension of the child's social and family life. Journal of Educational Research, 1976, 70(2), 87-90.
- Algozzine, R. What teachers perceive children receive. Communication Quarterly, 1976, 24(3), 38-43.
- Amidon, Edmund J. and Flanders, Ned A. The role of the teacher in the classroom. Minneapolis: Association for Productive Teaching, 1967.
- Amidon, E. J. and Giammettea, M. C. The behavior of superior teachers. The Elementary School Journal, February, 1965, 65, 283-285.
- Amidon, E. J. and Hough, J. B. Interaction analysis: theory research and application. Reading, Mass.: Addison-Wesley, 1967.
- Beckman, L. Effects of students' performance on teachers' and observers attributions of causality. Journal of Educational Psychology, 1970, 61(1), 76-82.
- Beckman, L. J. Causal attributions of teachers and parents regarding children's performance. Psychology in the Schools, 1976, 13(2), 212-218.
- Beez, W. Influence of biased psychological reports on teacher behavior and pupil performance. Proceedings of the 76th Annual Convention of the American Psychological Association, 1968, 3, 605-606.
- Bondi, J. C. The effects of interaction analysis feedback on the verbal behavior of student teachers. Educational Leadership, 1969, 26, 794-799.
- Brockner, J. and Swap, W. C. Effects of repeated exposure and attitudinal similarity on self-disclosure and interpersonal attraction. Journal of Personality and Social Psychology, 1976, 33(5), 531-540.

- Brophy, J. and Good, T. Teacher's communication of differential expectations for children's classroom performance. Journal of Educational Psychology, 1970, 61, 365-370.
- Brophy, J. E. and Good, T. L. Teacher student relationships: causes and consequences. New York: Holt, Rinehart, and Winston, 1974.
- Brown, W. The influence of student information on the formulation of teacher expectancy. Dissertation Abstracts, 1970, 30, 4822-A.
- Burnham, J. Effects of experimenter's expectancies on children's abilities to learn to swim. In J. Brophy and T. Good. Teacher Student Relationships, 1974.
- Carter, R. How invalid are the marks assigned by teachers? Journal of Educational Psychology, 1952, 43, 218-228.
- Cialdew, R. B. and Mirels, H. L. Sense of control and attributions about yielding and resisting persuasion targets. Journal of Personality and Social Psychology, 1976, 33(4), 395-402.
- Claiborne, W. L. Expectancy effects in the classroom: a failure to replicate. Journal of Educational Psychology, 60(5), 377-383.
- Clifford, M. and Walster, E. The effect of physical attractiveness on teacher expectation. In J. Brophy and T. Good, Teacher Student Relationships, 1974.
- Cook, W. W. Leeds, C. H. and Callis, R. Minnesota Teacher Attitude Inventory: Manual. New York: Psychological Corp., 1951.
- Curtis, J. and Altmann, H. The relationship between teachers' self-concept and the self-concept of students. Child Study Journal, 1977, 7(1), 17.
- Dion, K., Berscheid, E., and Walster, E. What is beautiful is good. Journal of Personality and Social Psychology, 1972, 24, 285-290.
- Doyle, W., Hancock, G., and Kifer, E. Teachers' perceptions: Do they make a difference? Journal of the Association for the Study of Perception, 1972, 7, Fall, 21-30.
- Dusek, J. Experimenter-bias effect on the simple motor task performance of low and high-test anxiety boys and girls. Psychological Reports, 1972, 30, 197-114.
- Elashoff, J. and Snow, R. Pygmalion reconsidered. Worthington, Worthington, Ohio: Charles A. Jones, 1971.

- Everston, C., Brophy, J., and Good, T. Communication of teacher expectations: First grade. In J. Brophy and T. Good. Teacher Student Relationships.
- Fiedler, F. E. Leader Attitudes and group effectiveness. Urbana: University of Illinois Press, 1958.
- Finn, J. Expectations and the educational environment. Review of Educational Research, 1972, 42, 389-410.
- Finske, M. J. The effect of feedback through interaction analysis on the development of flexibility in student teachers. Dissertation Abstracts, 1967, 28, 2117.
- Flanders, N. A. Interaction analysis in the classroom: a manual for observers. Minnesota: College of Education, 1960.
- Flanders, N. A. Analyzing teaching behavior. Reading, Mass: Addison-Wesley, 1970.
- Fleming, E. S. and Anttonen, R. G. Teacher expectancy or my fair lady. American Educational Research Journal, 1971, 8(2),
- Friend, R. M. and Wood, L. E. Adult's attribution of responsibility for success and failure of children from different social backgrounds. Psychology in the Schools, 1973, 10(3), 337-344.
- Furst, N. The effects of training in interaction analysis on the behavior of student teachers in the secondary school. In Anidon and Hough, 1967.
- Gallagher, T. Effects of time parometers on the measurement of teachers' verbal behavior patterns using the Flanders system of interaction analysis. Unpublished doctoral dissertation, University of Oklahoma, 1969.
- Garwood, S. G. First name stereotypes as a factor in self-concept and school achievement. Journal of Educational Psychology, 1976, 68(4), 482-487.
- Good, T. and Brophy, J. Questioned equality for grade one boys and girls. The Reading Teacher, 1971, 25, 241-252.
- Good, T. L. and Brophy, J. E. Behavioral expressions of teacher attitudes. Journal of Educational Psychology, 1972, 63(6), 617-624.
- Good, T. and Brophy, J. Looking in classrooms, New York: Harper Row, 1973.
- Goldsmith, J. and Fry, E. The test of a high expectancy prediction on reading achievements and I.Q. of students in grade 10 (or, Pygmalion in puberty). In Eloshoff and Snow, 1971.

- Gottlieb, D. Teaching and students: The news of negro and white teachers. Sociology of Education, 1964, 37, 345-53.
- Gurwitz, S. and Panciera, L. Attributions of freedom by actor and observer. Journal of Personality and Social Psychology, 1975, 32(3), 531-539.
- Harari, H. and McDavid, J. W. Teachers' expectations and name stereotypes. Journal of Educational Psychology, 1973, 65, 222-225.
- Heider, F. The psychology of interpersonal relations. New York: Wiley, 1958.
- Hennings, D. G. Mastering classroom communication: What interaction analysis tells the teacher. Pacific Palisades, California: Goodyear, 1975.
- Horn, J. L. and Morrison, W. L. Dimensions of teacher attitudes. Journal of Educational Psychology, 1965, 56(3), 118-125.
- Jackson, P. Life in classrooms. New York: Holt, Rinehart, and Winston, 1968.
- Jackson, P. and Lahaderne, H. Inequalities of teacher pupil contacts. Psychology in the Schools, 1967, 4, 204-211.
- Jackson, P. W., Silberman, M. L. and Wolfson, B. J. Signs of personal involvement in teachers' descriptions of their students. Journal of Educational Psychology, 1969, 60(1), 22-27.
- Jenkins, B. Teachers views of particular students and their behavior in the classroom. Unpublished doctoral dissertation. The University of Chicago, 1972.
- Johnson, D. The social psychology of education. New York: Holt, Rinehart, and Winston, 1970.
- Johnson, T. J., Feigenbaum, R. and Welby, M. Some determinants and consequences of the teacher's perception of causation. Journal of Educational Psychology, 1964, 55(3), 237-246.
- Jose, J. and Cody, J. Teacher-pupil interaction as it relates to attempted changes in teacher expectancy of academic ability and achievement. American Educational Research Journal, January, 1971, 8(1), p. 39-49.
- Kelley, H. H. Attribution theory in social psychology. In D. Levine (Ed.), Nebraska Symposium on Motivation (1967). Lincoln: University of Nebraska, 1967.
- Kelley, H. H. The processes of causal attribution. American Psychologist, 1975, 28, 107-128.

- Kirk, J. Effects of learning the Minnesota system of interaction analysis by student teachers of intermediate grades. In N. Flanders. Analyzing teaching behaviors. Reading, Mass: Addison-Wesley, 1970.
- Klein, S. S. Student influence on teacher behavior. American Educational Research Journal, 1971, 8(3), 403.
- Lamb, M. and Swick, K. A historical overview of classroom teacher observation. Educational Forum, 1971, 39(2), 239-247.
- Leacock, E. Teaching and learning in city schools. New York: Basic Books, 1969.
- Leslie, L. L. Matching student teachers with cooperating teachers: a fruitful effort? Journal of Teacher Education, 1961, 12, p. 471.
- Lippitt, R., and Gold, M. Classroom social structure as a mental health problem. Journal of Social Issues, 1959, 15, 40-49.
- McArthur, L. A. The how and what of why: Some determinants and consequences of causal attribution. Journal of Personality and Social Psychology, 1972, 22, 171-193.
- McAulay, J. D. How much influence has a cooperating teacher? Journal of Teacher Education, March, 1960, 11, 79-83.
- McCandless, B., Roberts, A., and Starnes, T. Teachers' marks, achievement test scores, and aptitude relations with respect to social class, race, and sex. Journal of Educational Psychology, 1972, 63, 153-159.
- McDavid, J. W. and Harari, H. Stereotyping of names and popularity in grade school children. Child Development, 1966, 37, 453-459.
- Meyer, W. and Thompson, G. Sex differences in the distribution of teacher approval and disapproval among sixth grade children. Journal of Educational Psychology, 1956, 47, 385-396.
- Michenbaum, D., Bowers, K., and Ross, R. A behavioral analysis of teacher expectancy effect. Journal of Personality and Social Psychology, 1969, 13, 306-316.
- Moskowitz, G. The attitudes and teaching patterns of cooperating and student teachers trained in interaction analysis. In E. J. Amidon and J. B. Hough (Eds.) Interaction analysis: Theory, research, and application. Reading, Mass.: Addison-Wesley, 1967.

- Newcomb, R. M. An approach to the study of communicative acts. Psychological Review, 1953, 60(6), 393-398.
- Noble, C. G. and Nolan, J. D. Effect of student verbal behavior on classroom teacher behavior. Journal of Educational Psychology, 1976, 68(3), 342-346.
- Osgood, C. E., Suci, G. J. and Tannenbaum, P. H. The measurement of meaning. Urbana, Ill.: University of Illinois Press, 1957.
- Palardy, J. What teachers believe - what children achieve. Elementary School Journal, 1969, 69, 370-374.
- Peck, R., and Tucker, J. Research on teacher education. In R. Travers (Ed.), Handbook of research on Teachings. (2nd ed.). New York: Rand, McNally, 1973.
- Pelligrini, R. and Hicks, R. Prophecy effects and tutorial instruction for the disadvantaged child. American Educational Research Journal, 1972, 9, 413-419.
- Powell, E. R. Some relationships between classroom process and pupil achievement in the elementary school. Unpublished doctoral thesis, Temple University, 1968.
- Price, R. D. The influence of supervising teachers. Journal of Teacher Education, December, 1961, 12, 471-475.
- Richey, H. W. and Richey, M. H. Application of Heider's POX balance model to classroom situations. Psychology in the Schools, 1975, 12(4), 473-481.
- Rist, R. Student social class and teacher expectations: The self-fulfilling prophecy in ghetto education. Howard Educational Review, 1970, 40, 411-451.
- Rosenshire, B. Teaching behaviors related to pupil achievement. In N. Flanders. Analyzing teaching behaviors. Reading, Mass: Addison-Wesley, 1970.
- Rosenthal, R. and Jacobson, L. Pygmalion in the classroom: Teacher expectation and pupils' intellectual development. New York: Holt, Rinehart, and Winston, 1968.
- Rosenthal, R. and Rubin, D. Appendix C. Pygmalion reaffirmed. In J. Elashoff and R. Snow. Pygmalion reconsidered. Belmont, California: Wadsworth Publishing Co., 1971.
- Rowe, M. Science, silence, and sanctions. Science and children, 1969, 6, 11-13.

- Rubovits, P. and Maehr, M. Pygmalion black and white. Journal of Personality and Social Psychology, 1973, 25, 210-218.
- Salvia, J., Algozzine R., and Sheene, J. B. Attractiveness and school achievement. Journal of School Psychology, 1977, 15(1), 60.
- Schrank, W. The labeling effect of ability grouping. Journal of Educational Research, 1968, 62, 51-52.
- Schrank, W. A further study of the labeling effect of ability grouping. Journal of Educational Research, 1970, 65, 358-360.
- Silberman, M. Behavioral expression of teachers' attitudes toward elementary school students. Journal of Educational Psychology, 1969, 60, 402-407.
- Silberman, M. Teachers' attitudes and actions toward their students. In M. Silberman. The experience of schooling. New York: Holt, Rinehart, and Winston, 1971.
- Snider, J. G. and Osgood, E. E. Semantic differential technique: a sourcebook. Chicago: Aldine, 1969.
- Snow, R. Unfinished pygmalion. Contemporary Psychology, 1969, 14, 197-199.
- Spaulding, R. Achievement, creativity and self-concept correlates of teacher-pupil transactions in elementary schools. In J. Brophy and T. Good. Teacher Student Relationships. New York: Holt, Rinehart, and Winston, 1974.
- St. John, N. Thirty-six teachers: their characteristics and outcomes for black and white pupils. American Educational Research Journal, 1971, 8(4), 635-647.
- Stern, C. and Keislar, E. R. Teacher attitudes and attitude change: a research review. Journal of Research and Development in Education, 1977, 10(2), 63-75.
- Stoller, N. and Lesser, G. S. Phase II: A comparison of methods of observation in pre-service teacher training. New York: Hunter College, 1963.
- Taylor, S. E. and Koivumaki, J. H. The perception of self and others: acquaintanceship, affect, and actor-observer differences. Journal of Personality and Social Psychology, 1976, 33(4), 403-408.
- Thorndike, R. Review of Pygmalion in the classroom. American Educational Research Journal, 1968, 5, 708-711.

- Torrance, P. E. Encouraging creativity in the classroom. Dubusque, Ill.: Wm. C. Brown, 1970.
- Valle, V. A. and Frieze, I. H. Stability of causal attributions as a mediator in changing expectations for success. Journal of Personality and Social Psychology, 1976, 33(5), 579-587.
- Waetjen, W. Is learning sexless? Education Digest, 1962, 28, 12-14.
- Weiner, B. Attribution theory, achievement motivation, and the educational process. Review of Educational Research, 1972, 42(2), 208-209.
- Wrightsman, L. Contemporary issues in social psychology. Belmont, California: Brooks Cole, 1973.
- Yee, A. Interpersonal attitudes of teachers and advantaged and disadvantaged pupils. Journal of Human Resources, 1968, 3, 327-345.
- Yee, A. Do cooperating teachers influence the attitudes of student teachers? Journal of Educational Psychology, 1969, 60, 327-332.
- Yee, A. H. and Fruchter, B. Factor content of the MTAI. American Educational Research Journal, January, 1971, 8(1), 283-285.
- Yee, A. H. and Gage, N. L. Techniques for estimating the source and direction of causal influence in panel data. Psychological Bulletin, 1968, 7(2), 115-126.
- Yee, A. H. and Kriewall, T. A. New logical scoring key for the MTAI. Journal of Educational Measurement, 1969, 6, 11-14.
- Zahn, R. The use of interaction analysis in supervising student teachers. In N. Flanders, 1970.

APPENDIX A

Minnesota Teacher Attitude Inventory

The MTAI was chosen as one of the instruments to be used in this project based upon its extensive use in teacher attitude research. The MTAI has been used in over 400 studies of teacher attitude most often with pre-service or intern teachers. The Minnesota Teacher Attitude Inventory (MTAI) was developed by Walter Cook, Carroll H. Leeds, and Robert Collis (1951) to measure those attitudes which predict how well a teacher will get along with pupils in inter-personal relationships.

The manual of the MTAI indicates that in the developmental studies the test has shown reliability coefficients (split-half, Spearman-Brown) ranging from .88-.93. Other studies of the MTAI indicate the experienced teachers' MTAI scores showed a multiple correlation of .63 with ratings of principals', an expert in teacher-pupil rapport, and pupils ratings of the teachers.

Two factor analytic studies of the MTAI (Horn and Morrison, 1965; Yee and Fruchter, 1971) identified five factors which were shared between the two factor analyses studies. The five factors that were identified were:

1. Childrens' irresponsible tendencies and lack of self-discipline.
2. Conflict between teachers' and pupils' interests.
3. Rigidity and severity in handling pupils.

4. Pupils' independence in learning.

5. Pupils' acquiescence to the teacher.

Three of the five factors, comprising 83 items, were used in this study to test cooperating and intern teachers' attitudes. The choice of the three factors to be used was done in relation to the purpose and problem of this study.

Factor I: Children's irresponsible tendencies and lack of self-discipline. There were 24 items such as:

12: Pupils should be required to do more studying at home.

35: Discipline in the modern school is not as strict as it should be.

52: The low achiever is probably not working hard enough and applying himself.

This factor sampled teacher attitudes toward children's inclinations toward "frivolity and foolishness" (Yee and Fructer, 1971, p. 121). These attitudes imply that unquestioning obedience to the teachers' authority is a reasonable expectation. A positive choice of these items was interpreted to express the belief that children are not evil; but are capable, through the influence of positive environments, of self-discipline and accepting responsibility willingly and cheerfully. A negative choice on these items favored the attitude that children are inherently untrustworthy and must be coerced and disciplined in order to overcome what might be perceived as frivolous and irresponsible inclinations.

Factor II: Conflict between teachers' interests and pupils' interests.

There were 34 items such as:

- 25: Children's wants are just as important as those of an adult.
- 113: Pupils like to annoy the teacher.
- 121: It isn't practicable to base school work upon children's interests.
- 134: Most pupils are not interested in learning.

This factor sampled teacher attitudes toward children's capacity and willingness to work cooperatively with teachers in planning, fulfilling, and evaluating classwork. Positive choices indicated a tendency toward a pupil centered interactive environment (Yee and Fruchter, 1971, p. 122). A negative choice indicated disrespect for children's behaviors and a desire to subordinate pupil interests to those of the adult.

Factor III: Tolerance for misbehavior and actions that should be taken in terms of beliefs.

There were 25 factors such as:

- 47: The child must learn that teacher knows best.
- 43: A good motivating device is the critical comparison of a pupil's work with that of other pupils.
- 100: Children must be told exactly what to do and how to do it.

This factor sampled teacher attitudes toward the actions that should be taken by the teacher. Horn and Morrison (1965) interpreted this factor as a "feeling of insecurity lest disobedience and misbehavior occur and go unpunished" (p. 122).

A positive choice on these items indicated more acceptance of behavioral differences among children. A negative choice on these items indicated an attitude that disobedience and misbehavior must not go unpunished.

APPENDIX B

Pupil Description Questionnaire

The Pupil Description Questionnaire (PDQ) is an instrument that was designed for this study. The PDQ samples teacher's attitudes toward individual students. No similar instrument was found through which attitudes toward individual students could be determined, therefore, the P.D.Q. was developed for use in this study. A similar scale used by Fiedler (1967) has been used widely to study attitudes of management personnel. Fiedler's Least Preferred Co-Worker (LPC) scale sampled attitudes through the use of twelve semantic differential scales. The successful use of the LPC in attitude sampling was significant in the development of the PDQ.

The PDQ and the LPC are both uses of the Semantic Differential technique. The Semantic Differential Technique was developed and described in The Measurement of Meaning by Osgood, Tannenbaum and Succi (1957) and The Semantic Differential Technique: A Sourcebook by Snider and Osgood (1969). The usefulness and research applications of the Semantic Differential Technique were well documented in both of these two volumes.

The Semantic Differential Technique uses the concept of semantic space to study the attitudes of people toward objects, ideas, or other people. The technique involves attitude or concept sampling through the use of ratings of a concept on semantic scales.

Each scale is composed of a seven point continuum terminated by bi-polar adjectives. These adjectives are usually antonyms such as:

Hot 1 . . . 2 . . . 3 . . . 4 . . . 5 . . . 6 . . . 7 Cold

For each concept or object a series of scales is presented to a subject. The subject rates the concept on the continuum for each of the scales. The combination of the ratings by the subject makes it possible to locate the concept within its "semantic space". The semantic space can be used to compare the concept similarity between subjects or between concepts, objects, or persons which are being rated. Research with the Semantic Differential Technique has consistently found that three factors appear across concepts in terms of the semantic space. These three factors do not constitute all of the dimensions of the semantic space but seem to be universally present (Osgood, et al., 1957). The three factors that have been found are the evaluative, potency, and activity factors. These factors are one criterion for the selection of semantic scales. Semantic scales should include scales associated with each of these three factors.

In the development of the PDQ the concept which the instrument was designed to study was the teacher's attitudes toward an individual student. The selection of the scales for the PDQ was chosen from various pupil rating scales. Pupil rating scales were often composed of single adjective ratings with a check-list ranging from "never" to "most of the time". From several of these pupil rating scales a core of descriptive words was chosen for a preliminary descriptor list. Two pupil description instruments which were combined

with the preliminary list were: My teacher thinks I am (St. John, 1971) and Ideal Pupil Characteristics (Torrance, 1970). From this list 30 items were chosen and from Roget's Thesaurus annonymic adjectives were selected for each of the items. These 30 were prepared as semantic scales for the pilot study.

These scales included a variety of attitude response possibilities toward individual pupils. In order to sample teacher attitudes toward various pupils within a classroom, the interview questions developed by Silberman (1969, 1971) were adapted. Silberman's questions asked teachers to identify particular students who were then classified into one of four categories: attachment, concern, unknown, or rejection. His studies found that based on these four questions, teachers' behaviors toward the identified students could be differentiated. In this study a questionnaire was written using Silberman's questions to identify students to be rated by their teachers on the PDQ.

The questionnaire and PDQ scales were administered to teachers taking graduate courses during the summer term 1977 at a Midwestern university. Only teachers who had taught during the previous year were included in the sample. The questionnaire and PDQ were coded to allow for anonymity of the teachers. Twenty-three teachers completed the questionnaire. Four of these were excluded due to incomplete questionnaires or incomplete PDQ ratings so that the data analyses were done on a sample of 19 teachers. Each teacher completed four PDQ scales for a total of 76 pupil ratings.

These PDQ pupil ratings were factor analyzed (BMD08M Revised

Dec., 1975) and from the 30 items, six factors were extracted.

The items which were loaded above .50 on the six factors were:

<u>Factor 1</u>	<u>Factor 2</u>	<u>Factor 3</u>
Friendly	Exciting	Mature
Cooperative	Spirited	Quick
Close	Unpredictable	High
Hot	Impulsive	Organized
	Active	Self-assured
		Motivated
		Imaginative
<u>Factor 4</u>	<u>Factor 5</u>	<u>Factor 6</u>
Consistent	Attractive	Confident
Hardworking	Interesting	Considerate
Successful	Happy	Open
Systematic	Imaginative	Close
Conforming		
Self-disciplined		
Accepting		
Eager		
Motivated		

From a cross tabulation analysis (SPSS, Primer) of the 30 scales, 16 were chosen for further analysis. These 16 items included those items from the 30 scales which were split between factors or which were heavily weighted on one or more of the factors. From these 16 items three factors were extracted. A factor loading of .60 or more on the items in each factor showed these items.

<u>Factor 1</u>	<u>Factor 2</u>	<u>Factor 3</u>
Self-disciplined	Confident	Eager
Conforming	Successful	Happy
Systematic	High	Accepting
Hardworking	Quick	Open
Accepting	Motivated	Close
Organized	Organized	
	Initiating	

A third analysis using 13 of these items was carried out. The factor loading on the 12 items was approximately the same as the analysis using the 16 items. From these analyses a semantic differential instrument was compiled using 12 semantic scales. Four scales each were chosen from the three factors. The 12 scales were:

<u>Factor 1</u>	<u>Factor 2</u>	<u>Factor 3</u>
Achievement Factor	Ability Factor	Personality Factor
Hard-working-Lazy	High-Low	Happy-Unhappy
Self-disciplined-	Quick-Slow	Eager-Indifferent
Irresponsible	Initiating-	Accepting-Rejecting
Systematic-Careless	Reluctant	Close-Distant
Conforming-	Confident-Insecure	
Unpredictable		

These factors approximated the three factors identified by Osgood et al (1957, 1969) as activity (factor 1), potency (factor 2), and evaluation (factor 3). Scoring of the PDQ will be done on both the total sum of the individual scales as well as factor sums of the four items on each factor. The comparison of the scales are scored using the distance score formula (D score) developed by Osgood, et al (1957).

Pupil Differential Questionnaire

Student Name _____

This rating form is designed to provide a profile of an individual student. Please circle the number on the continuum which best describes this student.

Happy	1	2	3	4	5	6	7	Unhappy
Initiating	1	2	3	4	5	6	7	Reluctant
Insecure	7	6	5	4	3	2	1	Confident
Low	7	6	5	4	3	2	1	High
Systematic	1	2	3	4	5	6	7	Careless
Rejecting	7	6	5	4	3	2	1	Accepting
Unpredictable	7	6	5	4	3	2	1	Conforming
Quick	1	2	3	4	5	6	7	Slow
Distant	7	6	5	4	3	2	1	Close
Hardworking	1	2	3	4	5	6	7	Lazy
Eager	1	2	3	4	5	6	7	Indifferent
Self Disciplined	1	2	3	4	5	6	7	Irresponsible

APPENDIX C

PUPIL DIFFERENTIAL DESCRIPTOR

Teacher's Name _____

St. Teacher's Name _____

This questionnaire is being used to evaluate the instructional program being used with our student teachers. Please complete this form and the attached descriptor profiles. Thank you for your assistance.

(From the children in your room or homebase group.)

1. If you could keep one child for the sheer joy of it, whom would you choose?
Student's Name _____
2. If you could devote all of your time and attention to a child who concerns you a great deal, whom would you choose?
Student's Name _____
3. If a parent dropped in unannounced for a conference, which child would you be the least prepared to talk about?
Student's Name _____
4. If your class had to be reduced by one child, whom would you be relieved to have removed?
Student's Name _____

Please name another child for each of the questions.

1. _____
2. _____
3. _____
4. _____

APPENDIX D

THE VERBAL INTERACTION CATEGORY SYSTEM

Teacher-Initiated Talk	<ol style="list-style-type: none">1. Gives information or opinion: presents content or ideas. May be short statements or extended lecture.2. Gives directions: tells pupil to take some specific action; gives orders; commands.3. Asks narrow question: asks drill questions requiring one or two word replies; questions to which the specific nature of the response can be predicted.4. Asks broad question: asks questions which are thought provoking; relatively open-ended questions which call for an unpredictable response.
------------------------	---

Teacher Response	<ol style="list-style-type: none">5. Accepts: (5a) Ideas: reflects, clarifies, ideas of pupils; summarizes or praises ideas of pupils. (5b) Behavior: responds in ways which commend or encourage pupil behaviors. (5c) Feeling: reflects or encourage pupil expression of feeling.6. Rejects: (6a) Ideas: criticizes, ignores, or discourages pupil ideas. (6b) Behavior: Discourages or criticizes pupil behavior. Designed to stop undesirable behavior. (6c) Feeling: ignores, discourages, or rejects pupil expression of feelings.
------------------	---

Pupil Response	<ol style="list-style-type: none">7. Responds (7a) Predictably: relatively short replies; usually follows a category 3 question. Teacher: (7b) Unpredictably: replies which usually follow category 4.
----------------	--

8. Responds to another pupil: replies that occur in conversation between pupils.

Pupil-Initiated talk	<ol style="list-style-type: none">9. Initiates talk to the teacher: statements which pupils direct to the teacher without solicitation from the teacher.10. Initiates talk to another pupil: statements which pupils direct to another student which are not solicited.
----------------------	--

Other	<ol style="list-style-type: none">11. Silence: short pauses or periods of silence during a time of classroom conversation.12. Confusion: considerable noise which disrupts planned activities.
-------	---
