THE RELATIONSHIP BETWEEN THE TRAINING OF TEACHERS IN THE THEORY AND PRACTICES OF INTERPERSONAL PROCESS RECALL AND THE SUBSEQUENT EFFECT ON THE ATTITUDES OF THE EATON RAPIDS INTERMEDIATE SCHOOL STUDENTS

> Dissertation for the Degree of Ph. D. MICHIGAN STATE UNIVERSITY DANIEL JOHN BIRD 1977



6103.

.

#### ABSTRACT

## THE RELATIONSHIP BETWEEN THE TRAINING OF TEACHERS IN THE THEORY AND PRACTICES OF INTERPERSONAL PROCESS RECALL AND THE SUBSEQUENT EFFECT ON THE ATTITUDES OF THE EATON RAPIDS INTERMEDIATE SCHOOL STUDENTS

By

Daniel John Bird

### Purpose of the Study

The purpose of the study was to investigate whether or not the attitudes of the Eaton Rapids Intermediate School students toward their teachers, themselves, and their fellow students would improve after the training of their faculty in the techniques of Interpersonal Process Recall (IPR).

#### Procedures and Design

The IPR training took place in two phases. Phase I consisted of a two-day inservice for all teachers and consisted of an introduction to the cognitive concepts from which the theoretical models of IPR training are composed. Phase II utilized physiological feedback, videotape playback, and film simulation to help the trainees improve their affective sensitivity and interpersonal interactions. Eighteen of the faculty members volunteered to complete Phase II of the training. Not only was it felt that the training could affect the attitudes of the general school population, but it was also felt that change might occur in proportion to the amount of assigned contact hours per day that students had with teachers who completed both phases of the training as compared with changes after contact with teachers who completed only Phase I of the program.

To measure the students' attitudes, three pre-test and three post-test semantic differentials were administered to the students in September of 1975 and again in January of 1976. The semantic differentials used in this study measured the students' attitudes toward the concepts of teachers, self, and fellow students in terms of four semantic dimensions: understandability, evaluative, potency, and activity.

The number of students completing both the pre-test and the post-test for each concept were: teachers, 400; self, 397; and fellow students, 400.

The data were analyzed by using a Repeated Measures Multivariate Test of Analysis of Variance.

The two general research questions to be tested by the semantic differentials were:

1. The attitudes of all students in the Eaton Rapids Intermediate School toward their teachers, themselves, and their fellow students would be more positive after the introduction of IPR into the school. 2. The more assigned contact hours that the Eaton Rapids Intermediate School students had with IPRtrained teachers, the more positive their attitudes would be toward their teachers, themselves, and their fellow students.

# Major Findings

1. After the introduction of IPR into the school, the students rated:

- their teachers higher on the evaluative dimension.
- their teachers higher on the activity dimension.
- their teachers lower on the potency dimension
- their teachers lower on the understandability dimension.
- themselves higher on the evaluative dimension.
- themselves higher on the activity dimension.
- themselves lower on the potency dimension.
- themselves lower on the understandability dimension.
- their fellow students higher on the evaluative dimension.
- their fellow students higher on the activity dimension.
- their fellow students lower on the potency dimension.
- their fellow students lower on the understandability dimension.

2. The more assigned contact hours that the students had with IPR-trained teachers the more positive they viewed their teachers in terms of the evaluative and activity dimension. 3. The number of assigned contact hours that the students had with IPR-trained teachers had no significant effect on the students' ratings of themselves or their fellow students on any of the four dimensions. THE RELATIONSHIP BETWEEN THE TRAINING OF TEACHERS IN THE THEORY AND PRACTICES OF INTERPERSONAL PROCESS RECALL AND THE SUBSEQUENT EFFECT ON THE ATTITUDES OF THE EATON RAPIDS INTERMEDIATE SCHOOL STUDENTS

By

Daniel John Bird

#### A DISSERTATION

Submitted to Michigan State University in partial fulfillment of the requirements for the degree of

# DOCTOR OF PHILOSOPHY

# Department of Educational Administration and Higher Education

#### ACKNOWLEDGMENTS

The learning experience resulting from the process of undertaking this dissertation has been both stimulating and frustrating. It could not have been done alone. The dissertation deals with interpersonal relationships. This project has afforded me not only the opportunity to study interpersonal relationships but to develop new ones and reaffirm previously existing ones.

I would like to thank Dr. Lou Romano, my advisor, and chairman of my Doctoral Committee for his optimism, helpfulness, sense of humor, and tolerance. He was always available whenever I needed him. He treated me with respect and has earned mine.

Dr. J. Bruce Burke deserves my deepest appreciation. Bruce helped me formulate the original idea for the dissertation. He teaches Interpersonal Process Recall and practices what he preaches. Mere words cannot express my feelings for this fine gentleman and all the help he has given. His counsel, faith in me, and inestimable help with the dissertation have been a guiding light through all the work and frustration.

ii

A debt of gratitude is due Dr. Van Johnson, Dr. Donald Nickerson, and Dr. Richard Farace for serving on my committee.

I wish to thank Dr. W. Carl Holbrook, my boss and my friend. He never let me make the mistake of taking myself too seriously. His cooperation, tolerance, and counsel were invaluable.

A special thanks to Laura Moore, my secretary, who donated much time, and who suffered with me through seemingly endless rewrites of the original drafts.

My sincere appreciation to Suwatana Sooktokakit from the Office of Research Consultation who was ever so patient and helpful to me in developing the design of the study and in analyzing the data.

To the boys and girls of the Eaton Rapids Intermediate School for their participation in the study, thank you.

A thanks also to the teachers of the Eaton Rapids Intermediate School, my friends and colleagues; they have taught me much, and their professionalism and support have been a constant source of encouragement. They are truly beautiful people.

To Bob Howe and Tim Culver, my partners in administration, goes my sincere appreciation for their friendship, their trust, their help, and their humor.

iii

Thanks also to Cynda Hyndman. Her expertise in IPR and her assistance in obtaining reference materials have been invaluable.

I wish to thank those who mean the most, my family. Thanks to my mother, Donna, who has been a constant source of guidance and support. Without her sacrifices and love, I would never have had this opportunity. To my stepfather, Al, a special thank you. Thanks also to my second set of parents, Fran and Erv, who have been much more than in-laws, they have been true friends. My deepest gratitude to my grandparents, Jane and Oral Camp, God rest their souls. They loved me and cared for me. They taught me so much. Thanks to my three children, Patrick, Todd, and Shannon, whose normal childhood was interrupted by a sometimes distracted and often irritable father. My children were a constant impetus to complete this dissertation. They certainly must share in this accomplishment.

Finally, and most importantly, a very special thanks to my wife, Janet; without her, it never would have happened. She has had to put up with so much--my lack of concentration, my frequent bad moods, the constant mess and clutter. She has been a never ending source of encouragement, faith, patience, and understanding. She is my strength, my love, my life.

iv

# TABLE OF CONTENTS

-

		Page
LIST OF	TABLES	viii
LIST OF	FIGURES	x
Chapter		
I.	THE PROBLEM	1
	Introduction	1
	Purpose of the Study	4
	Need for the Study	5
	Definition of Terms	8
	Assumptions and Delimitations of the	
	Study	10
	Research Questions	12
	Theory	13
	The IPR Program	14
	Overview	15
II.	OVERVIEW OF THE LITERATURE	16
	Self-Concent	16
	Interpersonal Process Pegall	25
	Cummary	23
		22
III.	PRESENTATION OF THE DESIGN AND METHODOLOGY .	35
	Population	35
	General Procedures	36
	IPR Training Program	36
	The Faton Ranids IPR Inservice Program	50
	Dhaco T	20
	The Ester Paride TDP Incorrige Drogram	50
	Dess IT	4 1
		41
		48
		49
	Administration of the instrument	53
	Research Questions and Hypotheses	54
	Analysis	55
	Summary	58

Chapter		Page
IV.	PRESENTATION OF DATA	. 60
	Introduction	. 60
	Research Ouestions	. 60
	Analysis of Data	61
	Concept of Teachers	. 61
	Analysis of Dimensions of the Concept	. 01
	Evaluative dimension of the	. 64
	concept of teachers	. 65
	Activity dimension of the	
	concept of teachers Potency dimension of the	. 67
	concept of teachers	. 69
	Understandability dimension of	
	the concept of teachers	. 71
	Concept of Self	. 73
	Analysis of Dimensions of the Concept	
	of Self	76
	Evaluative dimension of the	. /0
	concept of self	. 77
	Activity dimension of the	
	concept of self	. 78
	Potency dimension of the	
	concept of self	. 79
	Understandability dimension of	
	the concept of self	. 80
	Concept of Fellow Students	81
	Analysis of Dimensions of the Concept	. 01
	of Fellow Students	83
	Evaluative dimension of the	. 05
	concept of fellow students	. 85
	Activity dimension of the	• • • • •
	concept of fellow students	. 86
	Potency dimension of the	
	concept of fellow students	. 87
	Understandability dimension of	
	the concept of fellow students	. 88
	Summary	. 89
	Concept of Teachers	. 90
	Concept of Self	
	Concept of Fellow Students	
	concept of rettom prodemics	• • • • • • •

# Chapter

۷.	SUMMARY, CONCLUSIONS, RECOMMENDATIONS, AND	0.0
	REFLECTIONS	93
	Summary	93
	Purpose of the Study	93
	Review of the Literature	94
	Design of the Study	95
	Analysis	98
	Conclusions	99
	Concept of Teachers	99
	Concept of Self	101
	Concept of Fellow Students	104
	Implications for Future Research	106
	Reflections	107
		107
Appendi	x	
Α.	OUTLINE OF THE EATON RAPIDS IPR TRAINING	
	PROGRAM	111
в.	IPR LOG SUMMARY	112
С.	LOG OF IPR LAB	113
D.	SEMANTIC DIFFERENTIALS	115
Ε.	PRE, POST, AND DIFFERENCE SCORES BY CONCEPT	
	AND BY DIMENSIONS FOR THE FIVE CONTACT	
	GROUPS OF STUDENTS ON THE SEMANTIC	
	DIFFERENTIALS	118
BIBLIOG	RAPHY	121

Page

-

# LIST OF TABLES

Table		Page
1.	Enrollment of the Eaton Rapids Intermediate School by grade and sex	36
2.	Summary of professional assignment of the Eaton Rapids Intermediate School faculty for the fall semester of the 1975-1976 school year	47
3.	A distribution by group showing the number of students in each treatment group completing both the pre- and post-test on each concept	49
4.	Bipolar adjective scales and their associated dimensions of semantic space	51
5.	Results of the repeated measures multivariate analysis of variance on the concept of teachers	63
6.	Results of the univariate F test analysis of the dimensions of the concept of teachers	64
7.	Results of the Helmert Contrast F test on the evaluative dimension of the concept of teachers	65
8.	Results of the Helmert Contrast F test on the activity dimension of the concept of teachers	67
9.	Results of the Helmert Contrast F test on the potency dimension of the concept of teachers	69
10.	Results of the Helmert Contrast F test on the understandability dimension of the concept of teachers	72

# Table

11.	Results of the repeated measures	
	the concept of self	75
12.	Results of the univariate F test analysis of the dimensions of the concept of self	76
13.	Results of the repeated measures multi- variate analysis of variance on the concept of fellow students	83
14.	Results of the univariate F test analysis of the dimensions of the concept of fellow students	84
15.	Summary of repeated measures multivariate analysis of variance by concept, analyzing source of variation	90

Page

# LIST OF FIGURES

Figure		Page
1.	Design matrix	56
2.	Pre-post comparison of cell means: evaluative dimensionconcept of teachers	66
3.	Pre-post comparison of cell means: activity dimensionconcept of teachers	68
4.	Pre-post comparison of cell means: potency dimensionconcept of teachers	71
5.	Pre-post comparison of cell means: under- standabilityconcept of teachers	62
6.	Pre-post comparison of cell means: evaluative dimensionconcept of self	77
7.	Pre-post comparison of cell means: activity dimensionconcept of self	78
8.	Pre-post comparison of cell means: potency dimensionconcept of self	79
9.	Pre-post comparison of cell means: under- standability dimensionconcept of self	80
10.	Pre-post comparison of cell means: evaluative dimensionconcept of fellow students	85
11.	Pre-post comparison of cell means: activity dimensionconcept of fellow students	86
12.	Pre-post comparison of cell means: potency dimensionconcept of fellow students	87
13.	Pre-post comparison of cell means: under- standability dimensionconcept of fellow students	88

#### CHAPTER I

### THE PROBLEM

## Introduction

A major and critical area which has received extensive literary emphasis and which has been clearly demonstrated as vital to human functioning is the development of a positive, healthy, and productive self-concept. Educators are familiar with many of the social scientists such as Freud, James, Rogers, Maslow, and others who have dealt analytically and systematically with the complex phenomenon of self-concept. There is a wealth of descriptive data relative to the functioning of the self in the dynamics of how people behave and how the self-concept affects behavioral patterns.

There is no lack of evidence to substantiate the "cruciality" of the development of the positive selfconcept. Studies of school dropouts indicate the dire need to develop a positive self-concept.<sup>1</sup> Dropouts demonstrate

<sup>&</sup>lt;sup>1</sup>Axel Johnson, "A Study of the Relationship Between Nonpromotion and the Male Student's Self-Concept of Academic Ability and His Perceived Parental, Friends', and Teachers' Evaluations of His Academic Ability" (Ph.D. dissertation, Michigan State University, 1967).

a strong feeling of failure that appears to come from school experiences. The dropout attempts to defend himself by withdrawing from the educational environment for he feels he is in the process of becoming a nobody. He becomes alienated from his peers and from adults. The dropout's sense of failure indicated that he feels unable to control his environment. Since one's self-concept tends to improve as one's ability to control the environment improves and since the achievement of environmental control is the function of communication, then effective communication becomes critical.<sup>2</sup>

Gardner,<sup>3</sup> Glasser,<sup>4</sup> Holt,<sup>5</sup> and a host of others indicate the necessity of up-dating and humanizing our institutions. They also strongly support the concept that a student's self-concept and attitudes significantly affect his success in school. The work of Flanders,<sup>6</sup> Rosenthal

<sup>3</sup>John Gardner, <u>No Easy Victories</u> (New York: Harper & Row, 1968).

<sup>4</sup>William Glasser, <u>Schools Without Failure</u> (New York: Harper & Row, 1969).

<sup>5</sup>John Holt, <u>How Children Learn</u> (New York: Pitman Publishing Corporation, 1967).

<sup>6</sup>Ned Flanders, <u>Teacher Influence</u>, <u>Pupil Attitudes</u> <u>and Achievement</u>, OE-25040 Cooperative Research Monograph No. 12, U.S. Department of Health, Education and Welfare (Washington, D.C.: Government Printing Office, 1965).

<sup>&</sup>lt;sup>2</sup>Gerald Miller and Mark Steinberg, <u>Between People:</u> <u>A New Analysis of Interpersonal Communication</u> (Chicago: Science Research Associates, 1975).

and Jacobson,<sup>7</sup> and others support the theory that teacher behavior also affects the student's concept about himself and his school.

Man is a social being and as such there is very little in life that affects him more than his interactions with others. The more significant the others, the greater the impact. According to Miller,<sup>8</sup> the most powerful interactions are those based on interpersonal communication. The interpersonal recall work done by Kagan and his colleagues has shown that interpersonal recall training develops interpersonal communication skills and also affects the attitudes and behaviors of teachers toward their students. Kagan and Burke state:

We believe schools to be, outside of the home, the single most important influence in developing the lives of children. Teachers and other school personnel have a significant role to play in the positive mental health of children in our society. However, a few school staffs have received training in inter-personal relations skills. The training provided by inter-personal process recall (I.P.R.) is one source of such an experience. I.P.R. training is based on the conclusion that each human being is his/her own best expert in interpreting purpose and meaning in one's life, in acting freely to change one's own behavior. If schools are to be places which nurture free and capable human beings, then the goal of teaching is ultimately to facilitate

<sup>8</sup>Miller and Steinberg.

<sup>&</sup>lt;sup>7</sup>Robert Rosenthal and Lenore Jacobson, <u>Pygmalion in</u> the Classroom, Teacher Expectation and Pupils' <u>Intellectual</u> <u>Development</u> (New York: Holt, Rinehart and Winston Inc., 1968).

the liberation of children from ignorance and personal self-doubt.<sup>9</sup>

Brown<sup>10</sup> and Miller and Steinberg,<sup>11</sup> however, stress that one's attitude toward another must first be perceived by that other person if it is to have an effect on him. It is therefore important to determine whether or not student's attitudes toward themselves, their peers, and their teachers change significantly after the introduction of IPR training in a school.

# Purpose of the Study

The purpose of this study is to investigate whether or not the attitudes of the Eaton Rapids Intermediate School students toward themselves, toward their fellow students, and toward their teachers will improve significantly after the training of their faculty in the theory and techniques of Interpersonal Process Recall.

<sup>&</sup>lt;sup>9</sup>Norman Kagan and J. Bruce Burke, <u>Influencing Human</u> <u>Interaction in Schools Using: Inter-Personal Process Recall</u> (<u>IPR</u>), A Student Manual, Michigan State University, East Lansing, Michigan, 1974.

<sup>&</sup>lt;sup>10</sup> Charles T. Brown and Paul W. Keller, <u>Monologue</u> to <u>Dialogue</u> (Englewood Cliffs, N.J.: Prentice Hall, Inc., 1973).

<sup>&</sup>lt;sup>11</sup> Miller and Steinberg.

## Need for the Study

The principles behind Interpersonal Process Recall were discovered and developed through research which has been conducted since 1962 by Dr. Norman Kagan. According to Kagan,<sup>12</sup> the research which led to the development of the Interpersonal Process Recall method addressed itself to the fundamental questions, "Can we improve the ways in which we relate to each other? Can reliable methods be developed to teach people to live with each other without inflicting pain or destruction on each other? Can we improve the mental health of our society?"

Kagan and Burke state, "IPR Training is designed to develop skills so that we can better understand ourselves and others. It can also help us become better listeners and more effective communicators."<sup>13</sup>

In the report cited above, Kagan stresses the need for continued research and development. He also states, "Another way to influence the mental health of our society

<sup>&</sup>lt;sup>12</sup> Norman Kagan, "Influencing Human Interactions--Eleven Years with IPR," <u>Canadian Counsellor</u> 9(2), (April 1975): 74-97.

<sup>&</sup>lt;sup>13</sup> Kagan and Burke, Influencing Human Interaction in Schools Using: Inter-Personal Process Recall (IPR).

is to disseminate the learning to key populations and communities, particularly to classroom teachers."<sup>14</sup>

Although the initial thrust of IPR training centered under the general heading of "Counselling" and as such dealt with dyadic or small group interactions, there have been more recent efforts to train classroom teachers with the major goal being to improve the communication skills of the classroom teachers as they function within the classroom setting. One such effort which also provides a clue as to how IPR training may affect the attitudes of students took place in Hammond, Indiana. Ingas and Kagan<sup>15</sup> designed and administered the inservice program for the teaching staff of Spon Junior High School in Hammond, Indiana. It was found during the next school year that the typical student expulsion rate (150-170 per year during each of the previous years) has been reduced to near zero, while expulsions in the other schools within the Hammond system had not appreciably changed. Both teacher attendance and student attendance improved at Spon during the year following the training. The results of the inservice at Spon should, however, be considered

<sup>&</sup>lt;sup>14</sup> Kagan, "Influencing Human Interactions--Eleven Years with IPR."

<sup>&</sup>lt;sup>15</sup> Edward Ingas and Norman Kagan, "Influencing Human Interaction in Schools--Principals and Program," Pre-Publication Research Report, Michigan State University, East Lansing, Michigan.

tentative due to the fact that evaluation of its effects were not based on predetermined hypotheses.

At a time when there are continually increasing demands on school budgets, combined with ever increasing difficulties in raising revenues to meet those demands any inservice program must be cost effective. The cost of training a faculty in IPR is relatively inexpensive as compared with many other methods of attempting to improve the attitudes of students. As will be described in more detail, later in this study, much of the training of teachers in IPR is "on the job training" and done simultaneously with other activities. Even more important is the fact that IPR training programs are being designed and implemented as "turn key" programs providing, after an initial training program, for local personnel to perpetuate the program, thereby further reducing cost.

Efforts of improving the effective environment of schools have included adding counselors, social workers, and psychologists to faculties. However, the high cost of specialized personnel prevents them from being added in significant numbers and makes them extremely vulnerable to being cut when budgets are tight. In addition, experience has shown that specialists who do survive budget cuts are often swamped with individual student crises and thus have little or no time to attempt to affect large numbers of teachers and students.

Traditional inservice programs which range from speeches and workshops led by "experts" to intensive sensitivity training programs are not only costly but suffer from a lack of continuous reinforcement.

What is necessary is a method that provides for a program that will leave "in-house experts" with the skills and methods to perpetuate a cost feasible inservice process which will be in continual operation and thus able to affect the attitudes and interpersonal skills of large numbers of teachers and through them the attitudes and interpersonal skills of their students.

The major thrust of IPR training as it currently relates to the training of classroom teachers has primarily concerned itself with measuring changes in teachers' attitudes and behaviors. While it is extremely important to measure the effect of IPR training on the attitudes and behaviors of teachers, it is equally important to determine whether or not the IPR training received by teachers changes their behaviors enough so that students will see teachers, themselves, and their peers in a more positive light.

# Definition of Terms

Important terms which are used in this study are defined as follows:

Interpersonal Process Recall (IPR): the term used to describe the technique of videotaping the interactions of trainees in a variety of settings and then playing back the videotape to provide an opportunity for the participants to examine their intrapersonal and interpersonal dynamics in the original experience.

IPR-trained teacher, trained teachers: Eaton Rapids Intermediate School teachers who completed the entire IPR Training Program including the laboratory sessions versus untrained teachers who completed only the first phase of the IPR Training Program.

<u>Attitude</u>: A person's readiness to react in a particular direction with respect to a given object or concept.

<u>Self-concept</u>: An understanding of the self based on an internal frame of reference, one's attitude toward one's self.

<u>Semantic differential</u>: An instrument that asks a respondee to rate some concept (self, teachers, fellow students) on a number of seven-point rating scales that are bipolar with each extreme defined by an adjective; examples might be strong/weak, active/passive, understanding/mysterious, good/bad.

<u>Potency</u>: A semantic dimension that connotatively defines a concept being rated on a semantic differential; an example might be strong/weak.

<u>Activity</u>: A semantic dimension that connotatively defines a concept being rated on a semantic differential; an example might be active/passive.

<u>Understandability</u>: A semantic dimension that connotatively defines a concept being rated on a semantic differential; an example might be predictable/unpredictable.

Evaluative: A semantic dimension that connotatively defines a concept being rated on a semantic differential; an example might be good/bad.

# Assumptions and Delimitations of the Study

A researcher can legitimately look to population, sampling procedure, and the analysis process for sources of limitation in any study. Since a study is no better than the source of data upon which it is based, one should consider population initially.

It should be quite evident that the population for this study is not a cross-section sample of students in general. First, the population consisted entirely of seventh, eighth, and ninth grade students. Second, the population and ultimate samples were drawn exclusively from the Eaton Rapids Intermediate School. To generalize results

of this study to other populations would constitute a rather hazardous conclusion without the support of additional data.

The sampling procedure also had limitations that need to be considered. Again, the sample consisted entirely of students in the Eaton Rapids Intermediate School. In addition, while this study made every effort to interfere with the normal school environment as little as possible, this very lack of interference produced additional limitations. No effort was made to prevent the interaction of students in the various treatment groups. In order to purify the study to some extent, however, only those students who completed both the pre- and the post-test, correctly coded their answer sheets, and who did not change classes during the course of the semester and the study, were included in this study. This resulted in a rather large loss of data. However, this loss could not be prevented without dramatically interfering with the normal processes of a fluid social system. Students could not be prevented from leaving or entering the school system during the term under study. In addition, it has been historically normal for many students to change their class schedules during the course of a semester. And while it had to be assumed that the subjects would follow the coding directions, the study would be limited insofar as they failed to comply.

,

While the hypotheses in the study took into account that all teachers had at least partial training in IPR, any conclusions drawn in this study must take into account not only this fact but also the fact that those teachers who continued the complete training were volunteers and may not have been a cross-section of the general population of teachers.

Careful consideration of the purpose of this study to describe changes, if any, in student attitudes toward the three concepts presented and under the antecedent conditions described, must be carefully considered prior to drawing conclusions or generalizing the results of this study to other populations.

#### Research Questions

Following are the two general research questions to be tested in this study:

- 1. The attitudes of all students in the Eaton Rapids Intermediate School toward their teachers, themselves, and their fellow students would be more positive after the introduction of IPR into the school.
- The more assigned contact hours that the Eaton Rapids Intermediate School students had with IPR-trained teachers, the more positive their attitudes would be toward their teachers, themselves, and their fellow students.

#### Theory

Interpersonal Process Recall Training is intended to develop three general sets of communication skills:

The first is the ability to fully understand what a person is saying; both overtly and covertly, and both on the cognitive and affective levels. The second is to be better able to recognize and label the impact another person is having on us. The third is that we will be able to share the understandings developed with those appropriate to do so, we will be able to tell others the things we are hearing and the reactions they are engendering in us.<sup>16</sup>

For those who undergo IPR training, it is expected that the use of their new found skill will cause several things to happen: First, it is expected that they will more fully understand their own as well as others' life style, behavior, and attitudes. Second, it is expected that others will recognize that individuals trained in IPR will understand them and are interested in them. It is further expected that others will be more self-disclosing in their interactions with IPR-trained persons. The overall goal is for individuals to become better listeners and more effective communicators.

The objective of the IPR project at Eaton Rapids Intermediate School was to train teachers to be more effective communicators thereby improving student-teacher interaction which, if accomplished, should be reflected by

<sup>&</sup>lt;sup>16</sup> Kagan and Burke, <u>Influencing Human Interaction in</u> Schools Using: Inter-Personal Process Recall (IPR).

improved student attitudes toward themselves, their teachers, and their fellow students. Except for parents, teachers have more contact with children than any other group of adults. For this reason the teachers' potential influence is great. However, teachers as a group are given very few experiences designed to improve their affective skills.

In an abstract titled "Influencing Human Interactions in Schools Through Teacher Education," Kagan and Burke<sup>17</sup> state, "although teachers are trainees and changes in them are expected, these changes should promulgate student changes and changes in the affective ecology of the environment also." The research hypotheses are based upon this theory.

## The IPR Program

The IPR program is a training system based on the principle of helper developmental tasks. The tasks were designed so as to be clear enough that the majority of trainees could be expected to grasp the concepts or learn the skills, yet not so limited as to be delimiting to the behaviors of the trainee. Researchers in IPR have found

<sup>&</sup>lt;sup>17</sup> Norman Kagan and J. Bruce Burke, "Influencing Human Interaction in Schools," an unpublished abstract submitted to the State Department of Education for a Title III proposal.

that the utilization of modern technology including physiological feedback, videotape playback, and film stimulation can be of great help to the trainee's efforts to improve his affective sensitivity and functioning. Specifically, the process includes a series of short lessons with a dyadic presentation of IPR concepts, then to film vignettes of simulation exercises, to videotape and physiological feedback exercises, to study of the self, to feedback from trainers and other trainees, and ultimately to an understanding and skill at dealing with interpersonal relationships and interactions.

#### Overview

A review of the related literature will be presented in Chapter II with the emphasis being primarily on the research and literature related to Interpersonal Process Recall (IPR). In Chapter III the population, including demographic data, will be described. Also included in Chapter III will be a presentation of the research hypotheses, and an explanation of the design and method of analysis. The statistical analysis for each research hypothesis will be provided in Chapter IV. Chapter V will include a summary of the study and the conclusions.

### CHAPTER II

### OVERVIEW OF THE LITERATURE

This chapter is intended to serve two functions: (1) to review selected literature pertaining to student attitudes, particularly their attitudes toward themselves, their teachers, and their fellow students, all of which are placed under the general heading of self-concept; and (2) to review the development of Interpersonal Process Recall from its conception to its current stage of development as a method of helping improve the guality of education.

### Self-Concept

In any study concerned with the attitudes of students, a review of literature related to the topic of self-concept is appropriate. For purposes of this study, Roger's definition of self-concept provides a comprehensive statement:

The self-concept is an organized configuration of perceptions of the self which are admissible to awareness. It is composed of such elements as the perceptions of one's characteristics and abilities; the percepts and concepts of self in relation to others and to the environment; the value qualities which are perceived as associated with experiences and objects; and the goals and ideals which are

perceived as having positive or negative values. It is the organized picture existing in awareness either as a figure or ground, of the self and the self-in-relationship, together with the positive or negative values which are associated with those qualities and relationships, as they are perceived as existing in the past, present or future.<sup>1</sup>

The self-concept is considered by many in the literature to be an integral part of the human being from early in his psychosexual and social development until the time of his death.<sup>2</sup> Through the child's interactions with others, he comes to see himself much as he perceives those who are important to him see him. The self-concept appears to be very dependent upon significant others, and is affected by changes in these important people.<sup>3</sup> Thus, although the self-concept becomes an integral part of the individual, such factors as the stage of psychosexual development, group and peer affiliation, and significant others are influential in the development and alteration of that self-concept.

Numerous studies indicate that the significant others who are most influential in the development of the

<sup>&</sup>lt;sup>1</sup>Carl Rogers, <u>Client Centered Therapy</u> (New York: Houghton Mifflin Company, 1951), p. 501.

<sup>&</sup>lt;sup>2</sup>George Herbert Mead, <u>Mind, Self and Society</u> (Chicago: University of Chicago, 1934).

<sup>&</sup>lt;sup>3</sup>L. B. Ames, "The Sense of Self of Nursery School Children as Manifested by Their Verbal Behavior," Journal of Genetic Psychology 81 (February 1962): 193-232.
self-concept in children are parents. Medinnus and Curtis<sup>\*</sup> studied the relationship between self-acceptance and child acceptance in a nonclinical group of mothers of young children. The authors use two instruments measuring selfacceptance and one measure of child acceptance that were given to 56 mothers in a parent participating cooperative nursery. They hypothesized that a significant positive relationship existed between maternal self-acceptance and child acceptance and found that it was supported by their data.

Further evidence of parents as significant others was found by Brookover et al.<sup>5</sup> in the area of self-concept of ability in school achievement. These authors found that the significant others who were by far most significantly responsible for a change in the self-concept of academic ability of children to be the child's parents. They also found that teachers and peers had much less impact upon this aspect of the self-concept when compared to parents, although teachers and friends did appear to be important.

<sup>&</sup>lt;sup>4</sup>Gene R. Medinnus and Floyd J. Curtis, "The Relation Between Maternal Self-Acceptance and Child Acceptance," Journal of Consulting Psychology 37 (December 1963): 542-544.

<sup>&</sup>lt;sup>5</sup>Wilbur Brookover et al., <u>Self Concept of Ability</u> and Achievement, Final Report on Cooperative Research Project #1636 entitled <u>Improving Academic Achievements</u> <u>Through Students' Self Concept Enhancement</u> (East Lansing: Bureau of Educational Research Services, Michigan State University, 1965).

In Chapter I of this study, Kagan<sup>6</sup> was quoted as asking the following questions: "Can we improve the ways in which we relate to each other? Can reliable methods be developed to teach people to live with each other without inflicting pain or destruction on each other? Can we improve the mental health of our society?" To these fundamental questions one additional question needs to be raised: Can teachers influence students in ways which affect their self-concepts? Kelly stated the need for a positive answer to this question:

The only way to modify and improve one's attitude toward other people is to give him a chance to have rewarding and enhancing experiences with other people. In this way, he can see that other people are not dangerous, and his whole concept of his own self can be changed. As he helps others and is helped by them, he cannot only open up to others, but can gain much-needed self-confidence. One can grow as long as he lives, but he cannot grow unless he is open to take the perceptive stuff of growth.<sup>7</sup>

Educators are often asked if their concern with student attitudes and self-concept is justified. In supporting this concern, the research of Brookover, Patterson,

<sup>&</sup>lt;sup>6</sup>Norman Kagan, "Influencing Human Interactions--Eleven Years with IPR," <u>Canadian Counsellor</u> 9(2), (April 1975): 74-97.

<sup>&</sup>lt;sup>7</sup>Earl C. Kelly, "Communication and the Open Self," ETC 11 (Winter 1954): 98.

and Thomas<sup>8</sup> in junior high schools demonstrated that self-concept of ability is positively related to school achievement in seventh grade at which time measured intelligence is controlled. They also show that a student's self-concept of ability in a specific school subject may differ from his general self-concept of ability. In addition, they found that a student's self-concept of ability is positively related to the image he perceives that significant others hold of him--when parents, teachers, and peers are identified as significant others.

Jersild<sup>9</sup> emphasized the importance of the self image as essential for mental health. He also feels that the schools are playing a major role and they are second only to the family in this respect.

Hamachek<sup>10</sup> reinforces the importance of the selfconcept when he states, "One of the striking things we are currently discovering is that the most important ideas which affect student's behavior are those ideas or conceptions they have about their selves."

<sup>&</sup>lt;sup>8</sup>Wilbur B. Brookover, Ann Patterson, and Shailer Thomas, <u>Self Concept of Ability and School Achievement</u> (East Lansing: Office of Research and Publication, Michigan State University, 1962), p. 73.

<sup>&</sup>lt;sup>9</sup>A. T. Jersild, <u>In Search of Self</u> (New York: Bureau of Publications, Teachers College, Columbia University, 1952).

<sup>&</sup>lt;sup>10</sup> D. E. Hamachek, ed., <u>The Self and Growth, Teaching</u> and Learning (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1965), p. 77.

First, Engel<sup>11</sup> and later, Barr<sup>12</sup> learned that the self-concept of adolescence was generally stable when measured over a two-year period. Engel found that the overall mean correlation between the self-concept of children who were measured first as eighth graders in 1954 and then retested as tenth graders was .53. In the same study, she also concluded that adolescents who had a negative selfconcept during 1954 tended to change their perceptions of themselves more than students who were classified as having normal self-concepts. In a similar study, Barr analyzed the change in self perceptions of 70 junior high school students over a two-year period. He found no statistically significant difference in the self-concept changes between students who fell above and below the mean on selected variables of academic achievement, socioeconomic status, and mental capacity. He also found no statistically significant difference between boys and girls. Barr concluded that the student self perceptions remained relatively stable over the two-year period of his study.

<sup>&</sup>lt;sup>11</sup> Mary Engel, "The Stability of the Self-Concept in Adolescence," Journal of Abnormal and Social Psychology 58 (March 1959): 211-215.

<sup>&</sup>lt;sup>12</sup> Donald J. Barr, "An Investigation of the Change in Self, Peer, Parental and Teachers' Perceptions of Junior High School Students Over a Period of Two Academic Years" (Ph.D. dissertation, Indiana University, 1965).

Godbold compared the self perceptions, achievement, and attitudes toward school of eighth graders in communities having different levels of economic influence. He found that,

the level of economic affluence from which these pupils come does not necessarily influence their perceptions of self or attitudes towards school. On the average, pupils from communities of lower economic affluence do not necessarily possess more negative attitudes towards themselves or school than do pupils from higher economic affluence.<sup>13</sup>

The importance of the perception of children of their teachers' feelings toward them as related to self perception, school achievement and behavior has been studied by Davidson and Lang.<sup>14</sup> A check list of trait names, consisting of 35 descriptive terms was administered to 89 boys and 114 girls in grades four, five, and six, in a New York City public school. The students were rated by their teachers for achievement and on several behavioral characteristics. The major findings of this study were: (1) the children's perception of their teachers' feelings toward them correlated positively and significantly with

<sup>&</sup>lt;sup>13</sup> Horace Donald Godbold, "A Comparison of Attitudes Towards School, Self-Perception and Achievement of 8th Grade Pupils Attending Junior High School in Communities of Different Levels of Economic Influence" (Ph.D. dissertation, University of Michigan, 1967).

<sup>&</sup>lt;sup>14</sup> H. H. Davidson and P. Lang, "Children's Perception of Their Teachers'Thinking Toward Them Relating to Self-Perception, School Achievement and Behavior," <u>Journal of</u> Experimental Education 29 (1960): 107-108.

self perception--the child with a more favorable self image as the one who more likely than not perceived his teachers' feelings toward him more favorable; and (2) the more positive the children's perceptions of their teachers' feelings, the better was their academic achievement, and the more desirable their classroom behavior as rated by the teacher.

Flanders and Havumaki<sup>15</sup> similarly found that the effects of pupil-teacher interactions on the sociometric choices of the children were significantly correlated with teacher praise. When contacts involving praise increased, the pupil's acceptance by his peers increased as well.

In a study by Stock<sup>16</sup> the results indicate the effect an individual's self-concept has, not only on himself, but also on his relationship with others. She found that a definite relationship exists between the way an individual feels about himself and the way he feels about other persons. An individual who holds negative feelings toward himself tends to hold negative feelings toward other people in general. As his feelings about himself change to

<sup>&</sup>lt;sup>15</sup> N. A. Flanders and S. Havumaki, "The Effect of Teacher-Pupil Contacts Involving Praises on the Sociometric Choices of Students," <u>Journal of Educational Psychology</u> 51 (1960): 65-68.

<sup>&</sup>lt;sup>16</sup> Dorothy Stock, "An Investigation Into the Inter Relations Between the Self-Concept and Feelings Toward Other Persons and Groups," <u>Journal of Counseling Psychology</u> 13 (1949): 176-180.

objective or positive, feelings about others change in a similar direction.

Perelli<sup>17</sup> supports these data when she states that the teacher is one of several significant factors having an effect upon the changes in self-concept. She also reports a critical element of student-teacher interaction and its effect on the students self-concept when she states, "The student's perception of a teacher's behavior seems to be crucial and does not always correspond with the teacher's intent." In making this statement Perelli appears to be emphasizing the need to study the attitudes of both teachers and children when evaluating the effectiveness of any program designed to improve the quality of pupil-teacher interaction.

Rosenthal and Jacobson<sup>18</sup> demonstrated in their experiment that the teacher's expectations of children's successes had significant effects on self-concept and achievement in school. These findings are supported by the research of both Campbell and Miller. Campbell<sup>19</sup>

<sup>&</sup>lt;sup>17</sup> Dorene Lesly Perelli, "The Effect of Teachers on the Self-Concepts of Junior High School Students as Reported by the Students Themselves" (Ph.D. dissertation, Cornell University, 1966).

<sup>&</sup>lt;sup>18</sup> R. Rosenthal and L. Jacobson, <u>Pygmalion in the</u> <u>Classroom</u> (New York: Holt, Rinehart & Winston Inc., 1968).

<sup>&</sup>lt;sup>19</sup> Paul Burton Campbell, "Self-Concept and Academic Achievement in Middle Grade Public School Children" (Ed.D. dissertation, Wayne State University, 1965).

reported that there is a direct relationship between school achievement and self-concept for children in the fourth, fifth, and sixth grades in a suburban public school. Miller<sup>20</sup> also reported that he found evidence indicating that self-esteem and self-regard were related to achievement.

Morse, in commenting on research concerning selfconcepts concludes rather pessimistically,

while neither the self-picture nor the school self-esteem is pleasant, the school self appears to be even more negative. Whatever else we may have done, we communicated a sense of personal failure to many of our pupils . . . the longer we have them, the less favorable things seem to be.<sup>21</sup>

This is exactly what those who are involved with Interpersonal Process Recall hope to change by improving communication between teacher and student.

## Interpersonal Process Recall

The initial development of Interpersonal Process Recall began in 1961 when Michigan State University began videotaping visiting lecturers to preserve their lectures

<sup>&</sup>lt;sup>20</sup> Clifford D. Miller, "An Exploratory Investigation of Self-Concepts of High Achieving Groups of Junior High Pupils as Perceived by Pupils and Their Teachers" (Ph.D. dissertation, University of Colorado, 1963).

<sup>&</sup>lt;sup>21</sup>W. C. Morse, "Self-Concept Data in the University School Project," <u>The University of Michigan Education</u> Bulletin, 1963, p. 52.

for future payback. Several of these visiting lecturers who were curious about videotape teviewed the playback immediately after their initial presentation. The viewing of their presentation on videotape stimulated detailed recall of the experience. Kagan reports,

Because these eminent people were, in fact, not research subjects or supervisees, probing or interpreting was kept to a minimum and only <u>respectful inquiries</u> were made of the guests. Under these conditions (immediate video tape playback and probes, rather than interpretations), the guests often said things about themselves which were critical and which others said about them only behind their backs.<sup>22</sup>

Based on these observations, the Interpersonal Process Recall method began to be developed.

During the development of the Interpersonal Process Recall method, Kagan et al.<sup>23</sup> found significant differences between counselor trainees involved in supervision using IPR methods and those following more traditional training and supervision methods with the IPR group showing greater effectiveness, differences were reported significant at the .005 level for observed counseling behaviors and at the

<sup>&</sup>lt;sup>22</sup> Norman Kagan, "Influencing Human Interaction--Eleven Years of IPR," a pre-publication paper, Michigan State University, East Lansing, Michigan, n.d.

<sup>&</sup>lt;sup>23</sup>N. Kagan and D. Krathwohl, <u>Studies in Human</u> <u>Interaction</u>. Final Report, Grant No. OE 7-32-0410-270. Educational Publication Services, College of Education, Michigan State University, East Lansing, Michigan, 1967.

.025 level for client perceptions of the counselor-client relationship.

In a study comparing traditional audiotape counselling supervision with supervision using IPR, Goldberg<sup>24</sup> found that trainees using IPR showed significantly greater gains on the CVRS variables than those using traditional methods. In this study all trainees interviewed their clients for 30 minutes for six sessions held weekly. The traditionally supervised group spent 60 minutes after each session going over the audiotape of the session with their supervisor. For the IPR supervised group, a 15 minute client recall was conducted for the first two sessions with the counselor recall was also included in these first two sessions. During the next two sessions, the trainees conducted quite recalls for each other, and during the last two sessions, mutual recall was conducted for 60 minutes by the supervisor.

Danish and Kagan<sup>25</sup> and Kagan and Schauble<sup>26</sup> reported positive initial finds concerning the use of

<sup>&</sup>lt;sup>24</sup> A. D. Goldberg, "A Sequential Program for Supervision of Counselors Using the Interpersonal Process Recall Technique" (Ph.D. dissertation, Michigan State University, 1967).

<sup>&</sup>lt;sup>25</sup> S. J. Danish and N. Kagan, "Emotional Simulation in Counseling and Psychotherapy," <u>Psychotherapy, Theory,</u> <u>Research and Practice</u> 6 (1969): 261-263.

<sup>&</sup>lt;sup>26</sup> N. Kagan and P. G. Schauble, "Affect Simulation in Interpersonal Process Recall," <u>Journal of Counseling</u> Psychology 16 (1969): 209-313.

affect simulation films (actors portraying various emotions). In a study investigating the use of IPR and affect simulation combined with the goal of exhilarating therapy, Resnikoff, Kagan, and Schauble<sup>27</sup> found that the IPR/affect simulation had a significant effect on exhilarating client movement and therapy as compared to traditional counseling. Differences were measured by independent judges and client feelings about coming to future treatment sessions.

In 1970 Spivak compared a traditional counselor training model using lectures, discussions, and demonstrations with a developmental task model based on IPR and affect simulation. Spivak defined the learning tasks as follows:

(a) to become aware of and sensitive to one's own feeling during the counseling process; (b) to become sensitive to, aware of, and understanding of quiet communication; (c) to become aware of the elements of effective communication behaviors in counseling; and (d) to become sensitive to, aware of and understanding of the bilateral nature of the counseling relationship and the mutual impact between counselor and client.<sup>28</sup>

<sup>28</sup> J. D. Spivak, "The Use of Developmental Tasks for Counselor Training Using Interpersonal Process Recall" (Ph.D. dissertation, Michigan State University, 1970).

<sup>&</sup>lt;sup>27</sup>A. Resnikoff, N. Kagan, and P. Schauble, "Acceleration of Psychotherapy Through Simulated Videotape Recall," <u>American Journal of Psychotherapy</u> 24(1), (January 1970): 102-111.

Spivak's design used a pre-, mid-, and post-test with a reversal of the treatment at the mid point. Significant differences (p < .05) were found between the IPR and traditional groups. The IPR group scored higher than the traditional groups on the understanding, specific, and exploratory subscales of the counselor verbal response scale under the coached client condition and on the affective, understanding, specific, and exploratory subscales under a role play situation. No significant differences between the IPR and traditional groups were found for Carkuff's accurate empathy scale for the affect sensitivity scale.<sup>29</sup>

Grzegorek<sup>30</sup> investigated the effects of two types of training emphases using an IPR/simulation film tape rating training model. He attempted to find out if the learning which took place with the training model was related more to the affective or cognitive levels by using two emphases called experimental-accepting and cognitive intellectual. Grzegorek used counselors employed in Michigan State Prison as trainees. He found that there were no significant differences for the trainees in groups using the two different emphases on affective sensitivity as measured by the affective sensitivity scale. Grzegorek's trainees who

<sup>&</sup>lt;sup>29</sup> Ibid.

<sup>&</sup>lt;sup>30</sup> A. A. Grzegorek, "A Study of the Effects of Two Emphases in Counselor Education, Each Used in Connection With Simulation and Videotape" (Ph.D. dissertation, Michigan State University, 1970).

used the experimental-accepting emphasis did make significantly greater gain in empathic understanding and on the understanding, specific, and exploratory dimensions of the counselor verbal response scale. According to Kagan, <sup>31</sup> this suggests that the trainee's exploration of his own affect is a crucial part of the IPR model.

Edward Ignas<sup>32</sup> designed and administered an inservice training program for most of the teaching staff of the Spohn Junior High School, Hammond, Indiana, in the summer of 1971. In the program, Units I and II of the IPR model were included and accounted for most of the program which also included encounter sessions conducted by consultants during the next school year, the typical student expulsion rate (150 to 170 per year) during each of the previous few years was found to have been reduced to near zero while expulsions in the other schools within the system did not appreciably change. Also, both teacher and student attendance improved during the year following the workshop. Expulsion rate and attendance were not themes directly dealt with during the training nor were any administrator edicts issued. Kagan reports that teachers simply seem to find work a bit more satisfying

<sup>&</sup>lt;sup>31</sup> Kagan, "Influencing Human Interaction--Eleven Years with IPR."

<sup>&</sup>lt;sup>32</sup> Edward Ingas and Norman Kagan, "Influencing Human Interaction in Schools--Principals and Program," prepublication research report, Michigan State University, n.d.

and apparently were reluctant enough to "throw" people out of school to effect an important change in the lives of many children. In his reporting of this study, Kagan<sup>33</sup> stresses that since the Spohn study was not based on predetermined hypotheses, nor was any true control group established, the results, therefore, must be considered tentative until adequately replicated.

In 1971 Dendy<sup>34</sup> conducted an IPR program over a six-month period which involved 22 undergraduate students. The program provided for 38 hours of training to the students, most of who were sophomores. Dendy found significant improvement in interviewing skills, significant growth on an affective sensitivity scale, and no loss of skills during a three-month no-training period. In his review of the literature (regarding the study), Kagan states,

Most exciting of all before the program was undertaken, independent judges rated the sophomores' interview skills and also rated tapes of the level supervisory counselors employed at the University's Counseling Center. Both groups interviewed clients from the same client pool. Before the thirty-eight hour program, there were large differences favoring the Ph.D's. (fortunately!) but, after training, independent judges

<sup>&</sup>lt;sup>33</sup> Kagan, "Influencing Human Interaction--Eleven Years with IPR."

<sup>&</sup>lt;sup>34</sup> R. F. Dendy, "A Model For the Training of Undergraduate Residence Hall Assistant as Paraprofessional Counselors Using Videotape Techniques and Interpersonal Process Recall (IPR)" (Ph.D. dissertation, Michigan State University, 1971).

found no significant differences between the groups on scales empathy and other basic therapeutic communication skills.<sup>35</sup>

Archer and Kagan<sup>36</sup> found that Dendy's undergraduates could, in turn, train other undergraduates so that the peerinstructed students scored significantly higher than other students who experienced an encounter group of similar duration. They also scored higher than a comparable no-treatment group, not only on measures of affective sensitivity and self-actualization but also on scales given to roommates and other peers not in the study. Archer also found that when dormitory residents were given lists of all participants of this study, they selected IPR-trained students as the ones they "would be willing to talk to about a personal problem," significantly more frequently than they rated either encounter trained students or the control group member. The dormitory residents were evidently able to identify the increased therapeutic skills of those peerinstructed students in the IPR group. A nonhypothesized observation of this study is that the residents describe the dorm as a better place to live than it had been previously.

<sup>&</sup>lt;sup>35</sup> Kagan, "Influencing Human Interaction--Eleven Years with IPR."

<sup>&</sup>lt;sup>36</sup> J. Archer, Jr., and N. Kagan, "Teaching Interpersonal Relationship Skills on Campus: A Pyramid Approach," <u>Journal of Counseling Psychology</u> 20 (1973): 535-541.

Kagan<sup>37</sup> points out that the undergraduates used in both the Dendy and Archer studies were carefully selected and were highly motivated. On the other hand, Heiserman<sup>38</sup> in applying a 16-hour variation of the model to court caseworkers who did not seem to perceive their role as requiring counseling skills found no significant gains. Similarly, Munoz<sup>39</sup> was unable to achieve measurable success in rehabilitating alcoholics with IPR.

#### Summary

The chapter on related literature was divided into two major sections. In the first section the importance of the self-concept in education is pointed out by Rogers and Mead.

The importance of significant others is supported by the works of Aimes, Medinnus and Curtis, and Brookover et al.

<sup>39</sup> D. G. Munoz, "The Effects of Simulated Affect Films and Videotape Feedback in Group Psychotherapy with Alcoholics" (Ph.D. dissertation, Michigan State University, 1971).

<sup>&</sup>lt;sup>37</sup> Kagan, "Influencing Human Interaction--Eleven Years with IPR."

<sup>&</sup>lt;sup>38</sup> M. S. Heiserman, "The Effect of Experiential-Video-Tape Training Procedures Compared to Cognitive Classroom Teaching Methods on the Interpersonal Communication Skills of Juvenile Court Caseworkers" (Ph.D. dissertation, Michigan State University, 1971).

Pupil-teacher interactions and their significance on children's perceptions of themselves and their significant others is supported by the studies of Davidson and Lang, Flanders and Havumaki, and Stock.

All of the above provide evidence of the need to discover ways of helping children develop a better selfconcept as well as more positive feelings about their significant others.

In the second section of Chapter II, the efficacy of interpersonal process recall is supported by a number of studies. Kagan, himself, best points out the implications of the research related to Interpersonal Process Recall when he states,

Through the years the repeated use of IPR has provided my colleagues and me with a particular view of the complexity of influencing human interaction. Our generalizations seem to hold true for all the inter-actions we studied. Certainly they apply to counselor-client, doctor-patient, teacherclassroom, and undergraduate interpersonal relations. Such understandings we have gained have led to the visions and expansion of technology which in turn have enabled them to look deeper at basic elements in human inter-actions and to refine further our technologies. Because we focus our techniques on gross inter-personal behaviors rather than narrowly delimited areas, even our most embryonic theoretical constructs tend to appear heroic in their dimensions. Some of the constructs are very similar to parts of well known theories; others seem unique. These constructs have changed through the years and undoubtedly will continue to change but even in their present stage of development they have been useful to us in the refinement and further development of IPR. 40

<sup>&</sup>lt;sup>40</sup> Kagan, "Influencing Human Interaction--Eleven Years with IPR."

#### CHAPTER III

#### PRESENTATION OF THE DESIGN AND METHODOLOGY

The purpose of this chapter is to describe the population used in the study, the research design, the procedures used to conduct the study and the instrumentation. Also included are statements of the research hypotheses and the statistical methods used in the study.

#### Population

The population of this study was the Eaton Rapids Intermediate School student body in attendance for both the pre-test which was administered in September of 1975 and the post-test which was administered in January 1976. The Eaton Rapids Intermediate School houses students in grades seven, eight, and nine and is part of the Eaton Rapids Public Schools System which includes the City of Eaton Rapids, Michigan and the surrounding area. The school district is located immediately south of Lansing, Michigan in the south central part of the State. The student population of the school district was 3,500 students.<sup>1</sup> The student

<sup>&</sup>lt;sup>1</sup>As reported on September 26, 1975, the official student count date designated by the State of Michigan.

enrollment of the Eaton Rapids Intermediate School was 865 students.<sup>2</sup> Table 1 describes the Eaton Rapids Intermediate School student body by grade and sex.

Grade	Male	Female	Total
	150		
9	158	134	292
8	156	138	294
7	132	147	279
Totals	446	419	865

Table 1. Enrollment of the Eaton Rapids Intermediate School by grade and sex

Racially and ethnically the population of the school district and the student body at Eaton Rapids Intermediate School was approximately 98 percent Anglo-American.

Approximately 28 percent of the student body were not living with both natural parents at the time of this study.

## General Procedures

# IPR Training Program

In April of 1975 the faculty of the Eaton Rapids Intermediate School were involved in a two-day school district-sponsored inservice training program designed

<sup>2</sup>Ibid.

to train them in the theory and methods of Interpersonal Process Recall. This program was conducted by Dr. J. Bruce Burke of the School of Education, Michigan State University and was supported by the National Institute of Mental Health Project Grant: Influencing Human Interaction in Urban Schools,<sup>3</sup> with Dr. Norman Kagan as co-director. The IPR teacher training program is divided into seven units of instruction and when taught on campus as a graduate level course is normally taught over a ten-week term with each unit being taught in succession. However, when conducted as an inservice program in a school setting, one way of organizing the instruction of teacher training is to divide the program into two distinct phases.

Phase I was conducted during the regularly scheduled two-day spring inservice program and was required of all Eaton Rapids Intermediate School Teachers and Administrators and consisted of three units of instruction from the regular seven unit teacher training program."

<sup>&</sup>lt;sup>3</sup>Grant #1-T21-MH-13526-02.

<sup>&</sup>quot;See Appendix A for agenda.

# The Eaton Rapids IPR Inservice Program, Phase I<sup>5</sup>

Unit 1: Elements of Facilitating Communication. All Eaton Rapids faculty members participated in this unit of instruction which is designed to help teachers expand their repertoire of ways of responding to requests for help for understanding by another person. The unit concentrates on the following four skills: (1) Exploratory Responses-those responses which encourage a person to remain deeply involved in a communication process and still provide the person flexibility in what his/her next response will be. (2) Listening Responses--those responses which actively and intentionally communicate to the person seeking help that you are listening and trying to understand. (3) Affective Responses--those responses which identify the feeling tone of what the other person is saying and which focus on underlying attitudes, values, and body language. (4) Honest Labeling Responses--those which communicate to the other person what you are willing to deal directly and frankly, without being brutal, with what you have seen and heard.

In order to facilitate teacher awareness of these responses they were shown vignettes in which a person on film makes a statement and an interviewer responds one way

<sup>&</sup>lt;sup>5</sup>The description of the IPR training which follows was adopted from N. Kagan and J. B. Burke, <u>Influencing Human</u> <u>Interaction in Schools: A Student Manual</u>, <u>Michigan State</u> <u>University</u>, East Lansing, <u>Michigan</u>, 1974.

(nonexploratory) to her statement. In the next vignette the person repeats her statement to the interviewer who responds differently (exploratory) to her statement. The point is made that the nonexploratory, nonlistening, cognitive, and avoidance response modes are those usually associated with social conversation and sometimes can be superficial in their impact. On the other hand, the facilitative response modes are those which are frequently contained in therapeutic communication. The teachers practice the facilitative response modes with a series of actors on film who look directly at them and make statements varying in complexity and intensity. The teachers were reminded that the response modes being taught were helpful, but were not used by effective interviewers as a way of responding to every client's statement and that, indeed, it is frequently inappropriate to use them. The judgment as to when it is appropriate to use these facilitative responses is left with the trainee and depends on what he/she wants out of a communication.

Unit 2: Affect Simulation. The purpose of this unit was to help the teachers to increase their sensitivity to themselves and to recognize some of their "interpersonal allergies." Simulation vignettes were used illustrating various formats of interpersonal sensitivity. Specific questions were posed for the teachers to ask themselves

and each other after viewing each vignette, such as: "What did you feel? What were your bodily reactions? When else in your Life do you feel that way? What did you think? What did you really want to do? What did you think the person was feeling about it?"

After the teachers had reacted to the affect simulation vignettes, they viewed a film which explained the conceptual basis on which the vignettes were created. These vignettes concentrated on those interpersonal situations which are of concern to all persons to a greater or lesser extent. Discussion themes were introduced dealing with such topics as" "How does creating a language for one's covert experiences help one overcome fears?" Also explored was the concept of interpersonal distance.

The film vignettes used in Unit 2 consisted of a series of brief scenes in which actors look directly at the viewer and make statements which are likely to have emotional impact. The messages on the vignettes vary both in type and degree of intensity. Most of the vignettes were general enough to apply to any audience but a few have been designed specifically for the helping professions.

Unit 4: Inquirer Role and Function. The last unit required of all faculty members of the Eaton Rapids Intermediate School was Unit 4. It was designed to enable the teachers to better understand the conceptual basis of the

inquirer role and to permit students to safely practice the role for the first time through supervised simulated situations on film. Knowing the inquirer role, it enabled the teachers to conduct IPR sessions for each other, and it also was designed to further expand their repertoire in ways of relating with or helping another person.

Film episodes were presented which contrasted traditional supervision with IPR inquiry in the first stages of Unit 4. The inquirer functioned so as to assist another person to learn through their own efforts. In addition to dealing with conceptual issues, there were a series of practice vignettes in which the teachers assumed the role of inquirer. This unit demonstrated to the teachers how they could practice the inquirer role with each other in small groups. The specific questions used by the inquirer and the learning-by-discovery philosophy of the recall process were intended to be useful to the teachers with or without video tape.

## The Eaton Rapids IPR Inservice Program, Phase II

At the conclusion of the two-day inservice training program, all faculty members and administrators of the Eaton Rapids Intermediate School were offered the opportunity to complete the remaining units of IPR instruction. This phase of the program consisted of the following

units of instruction: Unit 3, Interviewer Recall; Unit 5, Client Recall, and Unit 6, Mutual Recall Including Classroom Taping and Recall.

Unit 3: Interviewer Recall. The purpose of Unit 3 was to help the teachers learn to study themselves in action and to help them learn about what students or other clients want and need in interpersonal encounters; i.e., why they come for help. In an interview recall session, the teacher was asked to interview a client while being videotaped in a five to ten minute interview session. At the end of the interview session, the client left the room and the teacher was joined by another teacher trainee who took the role of inquirer. During the video tape playback of the interview session the inquirer encouraged the teacher to re-live the experience inasmuch depth and detail as possible. The teacher was encouraged to remember what he/she was thinking and feeling, what the teacher thought the client was thinking and feeling, what the teacher wanted the client to think and feel, images that were going through the teacher's mind, and awareness of body language. The inquirer's role was not to be judgmental or to convey criticisms and evaluations; rather the inquirer's role was to encourage the teacher to re-live and verbalize covert behavior in the just-completed interview.

Unit 5: Client Recall. The purpose of Unit 5 was to expand the teacher's knowledge of client wants, perceptions, and aspirations, and of how clients will avoid, deny, confess, or choose to learn, to grow, and to change. Unit 5 is designed as an experience through which the client himself becomes the teacher's instructor. In this unit a teacher interviews a client. At the end of the interview, the teacher asks the client to review the videotape recording with one of the teacher's colleagues acting as inquirer. The client (in most cases a student) is told that in order for the experience to be of value to the client and instructive to the trainee's colleague that the client recall his/her thoughts, feelings, and momentby-moment reactions as completely and as honestly as possible. The teacher's colleague assumes the role of inquirer and learns from the client the moment-by-moment impact, the aspirations, the kinds of interventions which started new thought processes, and those which were perceived as mundane and meaningless. After the client recall session the two teacher trainees met together to discuss the recall session.

Unit 6: Mutual Recall With Trainee and Client. Unit 6 was designed to help the teacher trainees learn to use the here-and-now, and to invite them to act overtly on client behavior in the immediacy of their occurrence with

the client. In this unit an interview is videotaped. During the recall session both the interviewer (a teacher trainee) and client (generally a student but also a group of students or even an entire class can act collectively as the client) are present. An inquirer (another teacher trainee) encourages each one to talk about the unexpressed attitudes, intentions, feelings, thoughts, strategies, and expectations he had about the other--each participant equally. In this form of recall if the inquirer has done his job well he has helped the client and the interviewer not only talk with each other and to listen to each other in new ways and at more meaningful levels but has helped each confirm or refute perceptions they had of each other.

In Phase II of the Eaton Rapids Intermediate IPR Training Program each of the three learning units described above were dealt with in a series of IPR laboratory sessions. Each teacher trainee was required to participate in a total of ten sessions. These sessions were divided into three categories: (1) individual recall sessions, (2) mutual recall sessions, and (3) classroom recall sessions. Teacher trainees participated in four individual recall sessions, two as an interviewer and two as an inquirer. In these sessions only the interviewer trainee and inquirer trainee were present during the video playback. Each teacher trainee also participated in two mutual recall

sessions, one as an interview trainee and one as an inquirer trainee. In each of these sessions all three participants were present: the inquirer trainee, the interview trainee, and the client (often a student).

Each teacher participant was involved in a minimum of four classroom taping and recall sessions. In two of these sessions the participants retained their normal role as the classroom teacher. In the other two sessions, the participant took the role of inquirer. In classroom taping and recall sessions the teacher trainee and his/her class were first videotaped for approximately ten minutes of classroom interaction. After the initial taping, the class was joined by an inquirer. Two formats were used for classroom taping and recall sessions. The first format was an individual recall format in which either the teacher trainee or the class recalled the tape without the other being present. The second possible format was the mutual recall format in which the videotape of the classroom activities was recalled by both the teacher and the students who were present.

In addition to participating in a minimum of ten laboratory sessions, each participant in Phase II of the

IPR program completed an IPR log summary<sup>6</sup> and a written log of each IPR laboratory experience.<sup>7</sup>

The only inducement offered to teachers for completing the IPR training was the opportunity to earn three term credits from Michigan State University. Tuition fees for this credit were paid by the N.I.M.H. Grant.

Sixteen teachers and one administrator chose to complete the second phase of the IPR training program, with all of them completing the training by June 10, 1975. Table 2 summarizes by professional assignment the Eaton Rapids Intermediate Faculty for the fall semester of the 1975-1976 school year.

The students in the Intermediate School were assigned to classes for the 1975-1976 school year without regard to whether or not the teacher had been trained in IPR. No student was assigned to a given teacher for more than one class period per day. The scheduling process caused students to be assigned to various amounts of classes taught by IPR-trained teachers. Therefore, the student body was divided via the scheduling process into five groups: (1) those with none of their six assigned teachers trained in IPR; (2) those with one of their six

<sup>6</sup>Refer to Appendix B for a copy of the IPR log summary.

<sup>7</sup>Refer to Appendix C for a copy of the written log of each IPR laboratory experience.

Assignment	Number of IPR Trained Teachers	Number of Untrained Teachers	Total
English	3	4	7
Mathematics	3	4	7
Science	1	6	7
Social Studies	4	3	7
Physical Education	0	4	4
Related Arts <sup>a</sup>	4	5	9
Administrators	1	2	3
Student Services <sup>b</sup>	0	3	3
Total	16	31	47

Table 2. Summary of professional assignment of the Eaton Rapids Intermediate School faculty for the fall semester of the 1975-1976 school year

<sup>a</sup>Art, Band, Industrial Arts, Home Economics, Typing, Language. <sup>b</sup>Librarian, Counselor, Remedial Reading.

assigned teachers trained in IPR; (3) those with two of their six assigned teachers trained in IPR; (4) those with three of their six assigned teachers trained in IPR; and (5) those with four of their six assigned teachers trained in IPR. There were no students who were scheduled to meet with more than four IPR trained teachers.

Because of the fluid nature of the Intermediate School it was expected that both trained and untrained teachers would int ereact with each other and that students with varying amounts of contact with IPR and non-IPR trained teachers would interact with each other. It was also expected that students would interact with teachers to whom they were not regularly assigned. One of the theories behind Interpersonal Process Recall is, however, that it is not necessary to train all faculty members in PIR for there to be a positive effect on student and teacher attitudes.

# Sample

The sample for this study consisted of those Eaton Rapids Intermediate School students who were in attendance for both the pre-test which was administered in September of 1975 and the post-test which was administered in January of 1976. Since the design for this study called for a repeated measures technique to be employed pre- and posttest were matched by student code number which was assigned to the students at the time of administration of the instru-It was recognized at the onset of the administration ments. of the instrument that data loss would occur not only from the student's failure to take both the pre- and the posttests but also due to the student's failure to correctly code the instruments. In addition, any student who had changed his or her schedule at any time between the administration of the pre-test and the administration of the post-test was eliminated from the study. Four hundred students completed both the pre- and post-test for the

concept, teachers; 400 students completed both the pre- and post-test for the concept, fellow students; and 397 students completed both the pre- and post-test for the concept, self (see Table 3).

Table 3. A distribution by group showing the number of students in each treatment group completing both the pre- and post-test on each concept

<u> </u>	Group					
Concept	1	2	3	4	5	Total
Self	43	109	111	104	30	397
Teachers	42	78	113	130	37	400
Fellow students	40	108	108	104	40	400

#### Instrumentation

The instrument selected for this study was a semantic differential. Original development of semantic differential technique was done by Charles E. Osgood and his colleagues<sup>8</sup> as part of their study of quantitative measurement techniques concentrating on the development of an objective measure of meaning. The semantic differential asks a respondee to rate some concept on a series of bipolar

<sup>&</sup>lt;sup>8</sup>Charles E. Osgood, George J. Susi, and Perry H. Tannenbaum, <u>The Measurement of Meaning</u> (Urbana, Ill.: University of Illinois Press, 1957).

adjective scales. Each scale has seven possible choices ranging in numerical values from one through seven with four always representing the middle or neutral position. On any one scale, the greater the respondee perceives the concept toward either adjective the further away his response will be from the neutral position. The concepts selected for grading in this study were: self, fellow students, and teachers. Research with the semantic differential has shown that many common concepts can be seen as connotatively defined by four independent semantic dimen-These dimensions are: understandability, evaluative, sions. potency, and activity. Table 4 presents each of the scales used in the instrument. There are seven scales for the evaluative dimension, five scales for the potency dimension, seven scales for the activity dimension, and four scales for the understandability dimension.

From Table 4 it is clear that a student with a positive attitude toward himself, his fellow students, or his teachers on the evaluative dimension, would tend to rate the concept as: good, relaxed, beautiful, valuable, happy, pleasant, and fair. Conversely, a student with a negative attitude toward one of the three concepts being rated on the understandability dimension would tend to rate that concept as complicated, unpredictable, mysterious, and strange.

Scale	Dimension		
Good/bad	Evaluative		
Relaxed/Tense	Evaluative		
Beautiful/Ugly	Evaluative		
Valuable/Worthless	Evaluative		
Pleasant/Unpleasant	Evaluative		
Happy/Sad	Evaluative		
Fair/Unfair	Evaluative		
Strong/Weak	Potency		
Long/Short	Potency		
Large/Small	Potency		
Deep/Shallow	Potency		
Masculine/Feminine	Potency		
Active/Passive	Activity		
Fast/Slow	Activity		
Calm/Upset	Activity		
Sharp/Dull	Activity		
Exciting/Calm	Activity		
Successful/Unsuccessful	Activity		
Interesting/Boring	Activity		
Simple/Complicated	Understandability		
Predictable/Unpredictable	Understandability		
Understandable/Mysterious	Understandability		
Familiar/Strange	Understandability		

Table 4. Bipolar adjective scales and their associated dimensions of semantic space
This specific semantic differential used in this study was developed by Kagan, Burke, and Donk and was used upon the recommendation of Dr. J. Bruce Burke. Copies of the actual instrument used are located in Appendix D.

On a test-retest basis, Osgood<sup>9</sup> correlated 40 items across 100 subjects and found the resulting reliability coefficients to be .85. Young<sup>10</sup> conducted a study to investigate the relationship between the Purdue Master Attitude Test and a previously developed semantic differential test. His subjects consisted of 247 general education physical science students at the State University College at Buffalo, New York. The data were analyzed by an analysis of covariance with the .05 level of significance set as the point of rejection. It was concluded that the two tests were equally effective in their measurement of attitude change.

The instrument was also submitted to Mrs. Lynn Yates a reading specialist employed by the Eaton Rapids Public Schools. She reported that in her opinion students in grades seven, eight, and nine would recognize the adjectives used in the instrument and be able to attach a meaning to those adjectives.

<sup>&</sup>lt;sup>9</sup>Ibid., p. 126.

<sup>&</sup>lt;sup>10</sup> Darrell D. Young, "The Semantic Differential: Application as an Affective Measure," <u>The Journal of</u> Experimental Education 42(4), (1974): 86-91.

#### Administration of the Instrument

The three semantic differentials were administered to the students of the Eaton Rapids Intermediate School by an administrator or counselor during the third class period of the school day. In addition to the instrument students were supplied with a list of all students in their grade which showed the code numbers assigned to each student. The students were given verbal instructions as well as a demonstration on the chalk board showing how to code the instrument. The students were also told to think about each concept: themselves, their fellow students, and their teachers, when completing each of the instruments. The students were further advised that the intent of these instruments was to gather data regarding student attitudes and that the only "correct" response was their own response. They were also advised that the test administrator would read to them any work that they had trouble reading but that the test administrator would not supply any definition to a given word. Students were given no time limit in which to complete the instruments. Test administrators did report verbally that it seldom took more than forty minutes for all students in a given class to complete the three instruments.

The semantic differentials were collected and machine scored at Michigan State University. The resultant

scores were compiled on individual computer punch cards. Each of the six decks of cards, two each for each of the three concepts, were sorted into numerical sequence on a card sort machine and then hand matched by student code number for analysis.

# Research Questions and Hypotheses

The research questions for this study are stated in the declarative form as follows:

- The mean attitude of all students in the Eaton Rapids Intermediate School toward their teachers, themselves, and their fellow students will increase after the introduction of IPR.
- 2. The more assigned contact hours that the Eaton Rapids Intermediate School students have with IPR-trained teacher the more positive their attitudes will be toward their teachers, themselves, and their fellow students.

They hypothesis structure which was used to analyze the data and upon which conclusions to the preceding questions were made are stated in the null form as follows:

A<sub>1</sub> H<sub>0</sub>: There is no difference across the five groups on the four dimensions (activity, potency, evaluative, and understandability) on the concept of teachers.

or

$$H_0: M_1 = M_2 = M_3 = M_4 = M_5$$

A<sub>2</sub> H<sub>0</sub>: There is no difference between pre-test and post-test on the four dimension on the concept of teachers.

- A<sub>3</sub> H<sub>o</sub>: There is no interaction between group and test on the four dimensions on the concept of teachers.
- B<sub>1</sub> H<sub>o</sub>: There is no difference across the five groups on the four dimensions on the concept of self.

or

$$H_0: M_1 = M_2 = M_3 = M_4 = M_5$$

- B<sub>2</sub> H<sub>o</sub>: There is no difference between pre-test and post-test on the four dimensions on the concept of self.
- B<sub>3</sub> H<sub>o</sub>: There is no interaction between the group and test on the four dimensions on the concept of self.
- C<sub>1</sub> H<sub>o</sub>: There is no difference across the five groups on the four dimensions on the concept of fellow students.

or

$$M_0: M_1 = M_2 = M_3 = M_4 = M_5$$

- C<sub>2</sub> H<sub>o</sub>: There is no difference between pre-test and post-test on the four dimensions on the concept of fellow students.
- C<sub>3</sub> H<sub>o</sub>: There is no interaction between pre-test and post-test on the four dimensions on the concept of fellow students.

# Analysis

The statistical analysis of all data for this study was done at the Computer Center at Michigan State University. The program for the computer analysis of the data was prepared by the Office of Research Consultation, College of Education, Michigan State University. To answer both general research questions, the data were tested by the multivariate repeated measures analysis of variance. Figure 1 shows the design matrix.

	Measures							
	Pre-Test			Post-Test				
	Evaluative	Activity	Potency	Understand- ability	Evaluative	Activity	Potency	Understand- ability
Group 1								
Group 2								
Group 3								
Group 4								
Group 5								

Figure 1. Design matrix.

The design matrix was composed with one factor for design over the subject (groups with five levels) and one factor for design over measure (test with two levels).

The data were analyzed three times on the same two factors with the difference being the dependent variables.

That is to say, the same design was used to analyze the source of variations on the concepts of self, teachers, and fellow students which are the three dependent variables for this study.

For each analysis a series of hypotheses was tested to determine which sources of variation (effect) were significant in each concept.

The hypotheses structure which was applied to each of the three dependent variables is stated in the null form as follows:

1. H<sub>o</sub>: There is no difference across the five groups on the four dimensions (activity, potency, evaluative, and understandability).

or

$$H_0: M_1 = M_2 = M_3 = M_4 = M_5$$

- 2. H<sub>o</sub>: There is no difference between pre-test and post-test on the four dimensions.
- 3. H<sub>o</sub>: There is no interaction between group test on the four dimensions.

The hierarchy of testing was: First, test  $H_0^3$ . If  $H_0^3$  was significant at the required .05 level then testing ceased at this point and a series of univariate F tests were employed to determine which of the dimensions produced the significance.

If the interaction effect,  $H_0^3$  was not found to be significant,  $H_2^2$  (test effect) was tested. If  $H_2^2$  was

significant then the univariate f test was employed to search for the dimension which caused the significance.

If the test effect  $(H_0^2)$  was not significant,  $H_0^1$  would then be tested. If  $H_0^1$  was significant the post hoc comparison would then be employed to determine which dimension produced the significant difference across the five contact groups. The univariate F test would then be employed ( $\alpha = .01$ ). To determine which groups differed from which group(s) the helmert contrast<sup>11</sup> were constructed to test ( $\alpha = .002$ ) if the attitude was increasing as the amount of contact with IPR-trained teachers increased.

The entire hypothesis structure was used three times, once on the concept of self, once on the concept of teachers, and once on the concept of fellow students.

#### Summary

The purpose of this chapter was to explain the procedures and instrumentation used to fulfill the objectives of this study. The Eaton Rapids Intermediate School student body, the population for this study, was described along with all pertinent demographic data.

A complete description of the IPR Training program given the faculty of the Eaton Rapids Intermediate School

<sup>&</sup>lt;sup>11</sup> Jeremy D. Finn, <u>A General Model for Multivariate</u> <u>Analysis</u> (New York: Holt, Rinehart & Winston, 1974), pp. 232, 249, 255.

was provided. This program was conducted by Dr. J. Bruce Burke and consisted of two distinct phases: Phase I, which was a cognitive introduction to IPR and Phase II which was a practical training program in IPR. All 47 faculty members completed Phase I and 16 of those completed Phase II of the IPR Training program.

The sample used in the study was described in detail. This sample consisted of 400 students who completed the instruments for the concepts of teachers and fellow students and 397 students who completed the instruments for the self concept.

A detailed description of the semantic differentials used to measure student attitudes in this study was given as well as information concerning the instrument's source, reliability, and readability.

An explanation of the mechanics of the test administration and scoring was also given in this chapter.

The research questions were stated and the hypothesis structure developed to use in the analysis of the data so as to provide answers to those questions given. In addition, the chapter included a section describing the method of analysis of the data.

In the following chapter the data will be analyzed using a series of repeated measures multivariate analysis of variance tests, univariate f tests and graphs drawn from the cell means of the various dimensions and concepts.

#### CHAPTER IV

#### PRESENTATION OF DATA

#### Introduction

The purpose of this study has been to investigate whether or not the attitudes of the Eaton Rapids Intermediate School students toward their teachers, toward themselves and toward their fellow students would improve significantly after the training of their teachers in the theory and techniques of Interpersonal Process Recall. The data presented in this chapter were compiled from the responses of the students to three pre-test semantic differentials and three post-test semantic differentials which were administered at the beginning and middle of the 1975-1976 school year.

#### Research Questions

The general research questions for this study, stated in the declarative form, were:

- The mean attitudes of all students in the Eaton Rapids Intermediate School toward their teachers, themselves, and their fellow students would increase after the introduction of IPR into the school.
- The more assigned contact hours that the Eaton Rapids Intermediate School students have with IPR-trained teachers the more positive their attitudes would be toward their teachers, themselves, and their fellow students.

# Analysis of Data

The statistics related to each research question and the subsequent analysis will be presented in the next three sections by concept: teachers, self, and fellow students.

#### Concept of Teachers

The research questions for this section of the study were:

- 1. The attitudes, as measured by the semantic dimensions of evaluative, potency, activity, and understandability of the Eaton Rapids Intermediate School students toward their teachers would increase after the introduction of IPR into the school.
- 2. The more assigned contact hours that the Eaton Rapids Intermediate School students have with IPR-trained teachers the more positive their attitudes, as measured by the semantic dimensions of evaluative, potency, activity, and understandability, will be toward their teachers.

The two research questions relating to the concept of teachers were tested by a multivariate repeated measures analysis of variance. For this analysis a series of hypotheses were tested to determine which sources of variation (effect) were significant. The hypotheses structure which was applied to this dependent variable (teachers' concept) was as follows: Null Hypothesis A1

A<sub>1</sub> H<sub>o</sub>: There is no difference across the five groups of students on the four dimensions (activity, potency, evaluative, and understandability) on concept of teachers.

Null Hypothesis A,

A<sub>2</sub> H<sub>0</sub>: There is no difference between pre-test and posttest of the student body on the four dimensions (activity, potency, evaluative, and understandability) on the concept of teachers.

Null Hypothesis A3

A<sub>3</sub> H<sub>0</sub>: There is no interaction between group and test on the four dimensions (activity, potency, evaluative, and understandability) on the concept of teachers.

The hierarchy of testing was: first, test  $H_0: A_3$ to determine if the interaction effect (test x group) was significant. If the interaction effect was significant, this would mean that there was a significant pre to post change in attitudes and that this change varied significantly between the groups of students who had from zero to four contacts per day with IPR-trained teachers. Also, if  $H_0: A_3$  was significant, testing of the hypothesis structure would cease, because  $H_0: A_2$  and  $H_0: A_1$  would also be significant, and a series of univariate f tests would then be employed to determine which of the four semantic dimensions produced the significance. After learning from the univariate F tests which dimensions were significant, a series of helmert contrasts<sup>1</sup> were constructed to test if the attitude was increasing as the amount of contact with IPR-trained teachers increased.

The results of Table 5 show that null hypothesis  $A_3$  (test x group interaction) was rejected, thus indicating that the differences between the pre-test and post-test on the concept of teachers were not the same across the five contact groups.

Table 5. Results of the repeated measures multivariate analysis of variance on the concept of teachers

Source of Variation	df	F test	P Less Than
Group effect (Ho:A)	16	2.1725	.0048*
Test effect (H <sub>0</sub> :A <sub>2</sub> )	4	5134.0031	.0001*
Test <b>x</b> group (H <sub>0</sub> :A <sub>3</sub> )	16	2.7055	.0004*
Error term = 395			

\*Significant at the required .05 level ( $\alpha = .05$ ).

Since the interaction effect (test x group) is significant, the logic of the hypothesis structure precludes the analysis of null hypothesis  $A_1$  (group effect) and null hypothesis  $A_2$  (test effect).

<sup>&</sup>lt;sup>1</sup>Jeremy D. Finn, <u>A General Model for Multivariate</u> <u>Analysis</u> (New York: Holt, Rinehart & Winston Inc., 1974), pp. 232, 249, 255.

# Analysis of Dimensions of the Concept of Teachers

To determine which of the dimensions (evaluative, activity, potency, or understandability) produced the significant interaction, a univariate F test was employed. The results of the univariate F test on the concept of teachers are shown in Table 6.

Variable Dimension	df	Univariate F	P Less Than
Evaluative	4	22.6238	.0001*
Activity	4	23.4410	.0001*
Potency	4	7.2074	.0076*
Understandability	4	1.4148	.2350

Table 6. Results of the univariate F test analysis of the dimensions of the concept of teachers

\*Significant at the required .01 level ( $\alpha = .01$ ).

Table 6 shows that the evaluative, activity, and potency dimensions were significant in causing the rejection of null hypothesis  $A_3$ . The understandability dimension was not significant. Therefore, the difference between the pretest and post-test was not significant across the five groups of students on the evaluative, activity, and potency dimensions.

Evaluative dimension of the concept of teachers. To further identify the source of interaction between the five contact groups, a series of Helmert Contrasts<sup>2</sup> were employed to analyze the evaluative dimension. The results are given in Table 7.

Source of Variation	df	F Test	P Less Than
$G_1 - \frac{G_2 + G_3 + G_4 + G_5}{4}$	1	22.6238	.001*
$G_2 - \frac{G_3 + G_4 + G_5}{3}$	1	1.3987	.2377
$G_3 - \frac{G_4 + G_5}{2}$	1	.0089	.9250
G <sub>4</sub> - G <sub>5</sub>	1	2.3970	.1229

Table 7. Results of the Helmert Contrast F test on the evaluative dimension of the concept of teachers

\*Significant at the required .002 level ( $\alpha = .002$ ).

Table 7 shows that Group 1 is the only group that differs significantly from the other contact groups. In other words, the results of Table 7 show that the students who had assigned contact hours with IPR-trained teachers (Groups 2, 3, 4, and 5) differed significantly from those students who had no assigned contacts with IPR-trained teachers (Group 1), whereas there was no sifnificant difference between groups of students who had one or more contact hours per day with IPR-trained teachers when analyzing the evaluative dimension of the teachers concept.

The evaluative dimension of the teachers concept is illustrated in Figure 2, which shows a comparison of pre-test cell means and post-test cell means by contact group.



Figure 2. Pre-post comparison of cell means: evaluative dimension-concept of teachers.

Figure 2 shows significant pre to post increases throughout the total population as well as greater pre to post changes among those groups who had from one to four contacts per day with IPR-trained teachers (Groups 2, 3, 4, and 5) than those students who had no assigned contacts with IPR-trained teachers (Group 1).

Activity dimension of the concept of teachers.

To further identify the source of information between the five contact groups, a series of Helmert Contrasts<sup>3</sup> were employed to analyze the activity dimension of the teachers concept. The results are given in Table 8.

Source of Variation	df	F Test	P Less Than
$G_1 - \frac{G_2 + G_3 + G_4 + G_5}{4}$	1	23.4410	.0001*
$G_2 - \frac{G_3 + G_4 + G_5}{3}$	1	3.5589	.0600
$G_3 - \frac{G_4 + G_5}{2}$	1	.0009	.9763
<sub>G4</sub> - <sub>G5</sub>	1	.8700	.3580

Table 8. Results of the Helmert Contrast F test on the activity dimension of the concept of teachers

\*Significant at the required .002 level ( $\alpha = .002$ ).

<sup>3</sup>Ibid.

Table 8 clearly shows that Group 1 is the only group that differs significantly from the other contact groups. In other words the results of Table 8 show that the students who had assigned contact hours with IPR-trained teacher (Groups 2, 3, 4, and 5) differed significantly from those students who had no assigned contact hours with IPR-trained teachers. Table 8 also shows that there was no significant difference between groups of students who had one or more contact hours per day with IPR-trained teachers when analyzing the activity dimension of the teacher concept.

The activity dimension of the teachers concept is illustrated in Figure 3, which shows a comparison of pretest cell means and post-test cell means by contact group.



Figure 3. Pre-post comparison of cell means: activity dimension-concept of teachers.

Figure 3 shows significant pre to post increases throughout the total school population as well as greater pre to post changes among those groups who had from one to four contacts per day with IPR-trained teachers (Groups 2, 3, 4, and 5) than those students who had no assigned contacts with IPR-trained teachers.

Potency dimension of the concept of teachers. To further identify the source of interaction between the five contact groups, a series of Helmert Contrasts<sup>4</sup> were employed to analyze the potency dimension of the concept of teachers. The results are given in Table 9.

Source of Variation	df	F Test	P Less Than
$G_1 - \frac{G_2 + G_3 + G_4 + G_5}{4}$	1	7.2074	.0076
$G_2 - \frac{G_3 + G_4 + G_5}{3}$	1	6.1229	.0138
$G_3 - \frac{G_4 + G_5}{2}$	1	.0833	.7731
G <sub>4</sub> - G <sub>5</sub>	1	.2914	.5897

Table 9. Results of the Helmert Contrast F test on the potency dimension of the concept of teachers

\*Significant at the required .002 level ( $\alpha = .002$ ).

Table 9 shows that Group 1 is the only group that differs significantly from the other contact groups. In other words, the results of Table 9 show that the students who had one or more assigned contact hours with IPR-trained teachers (Groups 2, 3, 4, and 5) differed significantly from those students who had no assigned contact hours with IPR-trained teachers. Table 9 also shows that there was no significant difference between groups of students who had one or more contact hours per day with IPR-trained teachers when analyzing the potency dimension of the teachers concept.

The potency dimension of the teachers concept is illustrated in Figure 4, which shows a comparison of pretest cell means and post-test cell means by contact groups.

Figure 4 shows significant pre to post changes throughout the total population. However, unlike the evaluative and activity dimensions where the change was in a positive direction, in this case the change was in a negative direction. Furthermore, in contrast to the activity and evaluative dimensions in this instance it was the noncontact group (Group 1) that made the significantly greater change from pre-test to post-test than did the combined contact groups (Groups 2, 3, 4, and 5).



Figure 4. Pre-post comparison of cell means: potency dimension-concept of teachers.

#### Understandability dimension of the concept of

<u>teachers</u>. Data on the understandability dimension is presented here only for purposes of comparison since the understandability dimension was not significant as is shown in Table 6.

Table 10 shows that there was no significant interaction between the various student contact groups.

The understandability dimension of the teachers concept is illustrated for comparative purposes only in Figure 5, which shows a comparison of pre-test cell means and post-test cell means by contact group.

Source of Variation	df	F Test	P Less Than
$G_1 - \frac{G_2 + G_3 + G_4 + G_5}{4}$	1	1.4148	.2350
$G_2 - \frac{G_3 + G_4 + G_5}{3}$	1	4.0069	.0460
$G_3 - \frac{G_4 + G_5}{2}$	1	.1251	.7238
<sub>G</sub> <sub>4</sub> - <sub>G</sub> <sub>5</sub>	1	4.8660	.0280

Table 10. Results of the Helmert Contrast F test on the understandability dimension of the concept of teachers





Figure 5. Pre-post comparison of cell means: understandability dimension--concept of teachers.

Figure 5 shows a decrease in the understandability dimension by all groups from pre-test to post test. This decrease was, however, not significant.

# Concept of Self

The research questions for this section of the study were:

- 1. The attitudes, as measured by the semantic dimensions of evaluative potency, activity, and understandability of the Eaton Rapids Intermediate School students toward themselves would increase after the introduction of IPR into the school.
- 2. The more assigned contact hours that the Eaton Rapids Intermediate School students have with IPR-trained teachers the more positive their attitudes, as measure by the semantic dimensions of evaluative, potency, activity, and understandability, will be toward themselves.

The two research questions relating to the concept of self were tested by a multivariate repeated measures analysis of variance. For this analysis a series of hypotheses were tested to determine which sources of variation (effect) were significant. The hypotheses structure which was applied to this dependent variable (concept of self) was as follows:

Null Hypothesis B1

<sup>B</sup><sub>1</sub> H<sub>o</sub>: There is no difference across the five groups of students on the four dimensions (activity, potency, evaluative, and understandability) on concept of self.

# Null Hypothesis B<sub>2</sub>

B<sub>2</sub> H<sub>0</sub>: There is no difference between pre-test and post-test of the student body on the four dimensions (activity, potency, evaluative, and understandability) on the concept of self.

Null Hypothesis B3

B<sub>3</sub> H<sub>0</sub>: There is no interaction between group and test on the four dimensions (activity, potency, evaluative, and understandability) on the concept of self.

The hierarchy of testing was: first, test  $H_0:B_3$  to determine if the interaction effect (test x group) was significant. If the interaction effect was significant this would mean that there was a significant pre to post change in attitudes and that this change varied significantly between the groups of students who had from zero to four contacts per day with IPR-trained teachers. Also, if  $H_0:B_3$ was significant, testing of the hypothesis structure would cease, because  $H_0:B_2$  and  $H_0:B_3$  would also be significant, and a series of univariate F tests would then be employed to determine which of the four semantic dimensions produced the significance.

If the interaction effect,  $H_0:B_3$  was not found to be significant,  $H_0:B_2$  test effect (pre to post change) was tested. If  $H_0:B_2$  was significant, then the univariate F test was employed to search for the semantic dimensions which caused the significance and the testing ceased. The results of Table 11 show that there was no interaction between group and test on the concept of self. Therefore,  $H_0:B_3$  was not rejected. This failure to reject  $H_0:B_3$  means that the difference between the pre-test and post-test scores on the four dimensions are not statistically different across the five contact groups.

Table 11. Results of the repeated measures multivariate analysis of variance on the concept of self

Source of Variation	df	F Test	P Less Than
Group effect (Ho:Bl)	16	1.0006	.4532
Test effect (H <sub>o</sub> :B <sub>2</sub> )	4	5288.0860	.0001*
Test x group (H <sub>0</sub> :B <sub>3</sub> )	16	1.5518	.0750
Error term = 392			

\*Significant at the required .05 level ( $\alpha = .05$ ).

Table 11 does show that the test effect is significant. Therefore, null hypothesis  $B_2$  is rejected. Consequently, there is a difference between pre-test and post-test scores on at least one of the dimensions. Table 15 illustrates the results of the univariate F test and shows which dimensions produced this significance. Analysis of null hypothesis  $B_1$  is inappropriate because null hypothesis  $B_2$  was rejected. Since the test effect on the concept of self was significant, a univariate F test was employed to determine which dimension or dimensions produced the significance.

# Analysis of Dimensions of the Concept of Self

To determine which of the dimensions (evaluative, activity, potency, or understandability) produced the significant pre to post change of the combined groups of students, a univariate F test was employed. The results of the univariate F test on the concept of self are shown in Table 12.

Variable Dimension	df	Univariate F	P Less Than
Evaluative	1	10980.4602	.0001*
Activity	1	12045.3885	.0001*
Potency	1	11595.0922	.0001*
Understandability	1	10982.4022	.0001*

Table 12. Results of the univariate F test analysis of the dimensions of the concept of self

\*Significant at the required .01 level ( $\alpha = .01$ ).

Table 12 shows that all four dimensions were significant in causing the rejection of null hypothesis  $B_2$ . In other words, there was a significant change from pre-test to post-test in all four dimensions when analyzing all five contact groups as a whole. Although the univariate F test on the concept of self shows a significant pre to post change in all four dimensions, it does not show the direction of change. Therefore, Figures 6, 7, 8, and 9 are shown to graphically illustrate the pre-test to post-test change in each of the four dimensions on the concept of self.

# Evaluative dimensions of the concept of self.

Figure 6 shows large pre-test to post-test gains for all contact groups. There was, however, no significant difference in the amount of change between the groups of students with varying amounts of IPR teacher contact.



Figure 6. Pre-post comparison of cell means: evaluative dimension-concept of self.

Activity dimension of the concept of self.

Figure 7 shows significant pre-test to post-test gains for all contact groups. Again, there was no significant difference in the amount of change between the groups of students with varying amounts of IPR teacher contact.

Cell Means



Figure 7. Pre-post comparison of cell means: activity dimension-concept of self.

Potency dimension of the concept of self. Figure 8 graphically illustrates that in the potency dimension the students made a significant pre to post change. This change was, however, in a negative direction which was contrary to prediction. As was the case in the evaluative and activity dimensions, there was no significant difference in pre to post change when comparing the contact groups with each other.



Figure 8. Pre-post comparison of cell means: potency dimension-concept of self.

Understandability dimension of the concept of self. Figure 9 graphically illustrates that in the understandability dimension the students made a significant pre to post change. This change was in a negative direction which was contrary to prediction.

Again, in the understandability dimension as in the other three dimensions on the concept of self, there was no significant group effect.



Figure 9. Pre-post comparison of cell means: understandability dimension--concept of self.

#### Concept of Fellow Students

The research questions for this section of the study were:

- The attitudes, as measured by the semantic dimensions of evaluative, potency, activity, and understandability of the Eaton Rapids Intermediate School students toward their fellow students would increase after the introduction of IPR into the school.
- 2. The more assigned contact hours that the Eaton Rapids Intermediate School students have with IPR-trained teachers the more positive their attitudes, as measured by the semantic dimensions of evaluative, potency, activity, and understandability, will be toward their fellow students.

The two research questions relating to the concept of teachers were tested by a multivariate repeated measures analysis of variance. For this analysis, a series of hypotheses were tested to determine which sources of variation (effect) were significant. The hypothesis structure which was applied to this dependent variable (concept of fellow students) was as follows:

Null Hypothesis C1

C1 Ho: There is no difference across the five groups of students on the four dimensions (activity, potency, evaluative, and understandability) or concept of fellow students.

Null Hypothesis C<sub>2</sub>

C<sub>2</sub> H<sub>o</sub>: There is no difference between pre-test and post-test of the student body on the four dimensions (activity, potency, evaluative, and understandability) on the concept of fellow students. Null Hypothesis C3

C<sub>3</sub> H<sub>o</sub>: There is no interaction between group and test on the four dimensions (activity, potency, evaluative, and understandability) on the concept of fellow students.

The hierarchy of testing was: first, test  $H_0:C_3$ to determine if the interaction effect (test x group) was significant. If the interaction effect was significant, this would mean that there was a significant pre to post change in attitudes and that this change varied significantly between the groups of students who had from zero to four contacts per day with IPR-trained teachers. Also, if  $H_0:C_3$  was significant, testing of the hypothesis structure would cease, because  $H_0:C_2$  and  $H_0:C_3$  would also be significant, and a series of univariate F tests would then be employed to determine which of the four semantic dimensions produced the significance.

If the interaction effect,  $H_0:C_3$  was not found to be significant,  $H_0:C_2$ , test effect (pre to post change) was tested. If  $H_0:C_2$  was significant, then the univariate F test was employed to search for the semantic dimensions which caused the significance and the testing ceased.

The results of Table 13 show that there is no interaction between group and test on the concept of fellow students. Therefore, null hypothesis  $C_3$  was not rejected. This failure to reject null hypothesis  $C_3$  means that the

Source of Variation	df	F Test	P Less Than
Group effect (H <sub>o</sub> :C <sub>1</sub> )	16	1.3511	.1584
Test effect (H <sub>0</sub> :C <sub>2</sub> )	4	8.2291	.0001*
Test x group (H <sub>0</sub> :C <sub>3</sub> )	16	1.887	.2698
Error term = 395			

Table 13. Results of the repeated measures multivariate analysis of variance on the concept of fellow students

\*Significant at the required .05 level ( $\alpha = .05$ ).

difference between the pre-test and post-test scores on the four dimensions are not statistically different across the five contact groups.

Table 13 does show that the test effect is significant. Therefore, null hypothesis  $C_2$  is rejected. Thus, there is a difference between pre-test and post-test scores on at least one of the dimensions. Table 14 illustrates the results of the univariate F test and shows which dimensions produced this significance. Analysis of null hypothesis  $C_1$ is inappropriate because null hypothesis  $C_2$  was rejected.

# Analysis of Dimensions of the Concept of Fellow Students

To determine which of the dimensions (evaluative, activity, potency, or understandability) produced the significant pre and post change of the combined groups of students, a univariate F test was employed. The results of the univariate F test on the concept of fellow students are shown in Table 14.

Table 14. Results of the univariate F test analysis of the dimensions of the concept of fellow students

Variable Dimension	df	Univariate F	P Less Than
Evaluative	1	10311.3085	.0001*
Activity	1	12330.3838	.0001*
Potency	1	19001.1324	.0001*
Understandability	1	15293.6365	.0001*

\*Significant at the required .01 level ( $\alpha = .01$ ).

Table 14 clearly shows that all four dimensions were significant in causing the rejection of null hypothesis  $C_2$ . In other words, there was a significant change from pre-test to post-test in all four dimensions when analyzing all five contact groups as a whole. Although the univariate F test on the concept of fellow students shows a significant change from pre-test to post-test in all four dimensions, it does not show the direction of change. Therefore, Figures 10, 11, 12, and 13 are shown to graphically illustrate pre-test to post-test change in each of the four dimensions on the concept of fellow students.
Evaluative dimension of the concept of fellow students. Figure 10 shows large pre-test to post-test gains for all contact groups. There was, however, no significant difference in the amount of change between the groups of students with varying amounts of IPR teacher contact.



Figure 10. Pre-post comparison of cell means: evaluative dimension-concept of fellow students.

# Activity dimension of the concept of fellow

students. Figure 11 shows significant pre-test to post-test gains for all contact groups. Again, there was no significant difference in the amount of change between the groups of students with varying amounts of IPR teacher contact.



Figure 11. Pre-post comparisons of cell means: activity dimension-concept of fellow students.

<u>Potency dimension of the concept of fellow</u> <u>students</u>. Figure 12 graphically illustrates that in the potency dimension the student made a significant pre to post change. This change was, however, in a negative direction which was contrary to prediction as was the case in the evaluative and activity dimensions. There was no significant difference in pre to post change when comparing the contact groups with each other.



Figure 12. Pre-post comparison of cell means: potency dimension-concept of fellow students.

<u>Understandability dimension of the concept of</u> <u>fellow students</u>. Figure 13 graphically illustrates that in the understandability dimension the students made a significant pre to post change. This change was in a negative direction which was contrary to prediction.

Again, in the understandability dimension as in the other three dimensions on the concept of fellow students there was no significant group effect.



Cell Means

Figure 13. Pre-post comparison of cell means: understandability dimension--concept of fellow students.

#### Summary

Two basic research questions were proposed and studied for this study: (1) Would the mean attitudes of all students in the Eaton Rapids Intermediate School toward their teachers, themselves, and their fellow students increase after the introduction of Interpersonal Process Recall into the school, and (2) would the attitudes of the Eaton Rapids Intermediate School students toward their teachers, themselves, and their fellow students become more positive as their contacts with IPR-trained teachers increased?

To answer both general research questions, the data were applied to a design matrix which was composed with one fact for design over measure (test with two levels). The data were analyzed three times, by concept, on two factors. For each analysis, a three-step hypothesis structure was applied to each of the concepts. The hierarchy of testing was: first, test for interaction between group and test; second, test for test effect if there was no significant interaction; and third, test for group effect if neither the interaction effect nor the test effect were significant.

After testing the hypothesis structure, additional analysis was done to further determine the cause for significance. The data were analyzed using a repeated measures multivariable analysis of variance to test for

source of variation. The interaction effect between tests and groups showed to be significant for the self concept and fellow students concept. Table 15 summarizes the results of this analysis.

Concept	Но	Source of Variation	df	F Test	P Less Than
Teachers	A <sub>1</sub> A <sub>2</sub> A <sub>3</sub>	Group effect Test effect Test x groups interaction effect	16 4 16	2.1725 5134.0031 2.7055	.0048* .0001* .0004*
Self	<sup>B</sup> 1 <sup>B</sup> 2 <sup>B</sup> 3	Group effect Test effect Test x groups	16 4 16	1.0006 5288.0860 1.5518	.4532 .0001* .0750*
Fellow students	C <sub>1</sub> C <sub>2</sub> C <sub>3</sub>	Group effect Test effect Test x groups	16 4 16	1.3511 7868.2291 1.1887	.1584 .0001* .2698

Table 15. Summary of repeated measures multivariate analysis of variance by concept, analyzing source of variation

\*Significant at the required .05 level ( $\alpha = .05$ ).

# Concept of Teachers

The significance of the interaction effect on the concept of teachers meant that while there was a significant change in attitudes from pre-test to post-test this change was not consistent across the five contact groups. A univariate F test was then applied to the concept of teachers to determine which dimensions produced the significant interaction. The evaluative, activity, and potency dimensions were all found to be significant. For further identification, a series of Helmert Contrasts were employed to analyze each of the dimensions on the concept of teachers. The results of the Helmert Contrasts clearly showed that the contact groups differed significantly from the noncontact group on each of the significant dimensions (evaluative, activity, and potency). No significant difference was shown between the groups who did have IPR contact on any of the dimensions.

Of the four dimensions on the concept of teachers, however, only the evaluative and activity dimensions changed in a positive direction. The potency dimension, which was significant, and the understandability dimension, which was not, both changed in a negative direction.

# Concept of Self

The significance of the test effect on the concept of self means that in that concept the attitudes of the students changed significantly from pre-test to post-test. For the evaluative and activity dimensions, the change was in a positive direction and for the potency and understandability dimensions, the change was in a negative direction. There was no significant difference between the various contact groups of students.

# Concept of Fellow Students

The significance of the test effect on the concept of fellow students means that in that concept the attitudes of the students changed significantly from pre-test to posttest. For the evaluative and activity dimensions the change was in a positive direction and for the potency and understandability dimensions, the change was in a negative direction. There was no significant difference between the various contact groups of students.

#### CHAPTER V

# SUMMARY, CONCLUSIONS, RECOMMENDATIONS, AND REFLECTIONS

The final chapter of this study is devoted to a summation, followed by a discussion of the conclusions generated from the analysis of the data, and concluded with recommendations for further research and reflections.

# Summary

# Purpose of the Study

The purpose of this study was to investigate whether or not the attitudes of the Eaton Rapids Intermediate School students toward their teachers, toward themselves, and toward their fellow students would improve significantly after the training of their faculty in the theory and techniques of Interpersonal Process Recall.

The IPR training which took place at the Eaton Rapids Intermediate School was in two phases. The first phase consisted of a two-day inservice workshop for all the professional personnel in the school. These faculty members participated in what amounted to an introduction to the cognitive concepts from which the theoretical models of IPR

training are composed. In addition, the faculty members were exposed to a limited amount of basic IPR skill training using some affect simulation vignettes and exercises. At the end of the two-day inservice training program, all faculty members were invited to undergo more thorough training by participating in a graduate level course in IPR involving their colleagues and students. Ultimately, 18 of the faculty members completed this training.

Prior to the conception of this study the major focus of data collection in the study of the IPR training of classroom teachers had been concentred with measuring changes in teachers' attitudes and behaviors. However, since the ultimate value of any teacher training program must be measured according to its effect upon students, no assessment of IPR as a teacher training method could be complete without investigating its effect on the students themselves.

# Review of the Literature

The review of the related literature for this study was divided into two major sections. In the first section the importance of the self-concept was pointed out by such notable authors as Rogers and Mead.

The works of Aimes, Medinnus and Curtis, and Brookover et al. were reviewed to point out the importance of significant others and their effect on student's attitudes.

Pupil-teacher interactions and their significance on children's perceptions of themselves and their significant others were given support in the studies of Davidson and Lang, Flanders, Hauvmaki, and Stock.

All of the above provide evidence of the need to discover ways of helping students develop a better selfconcept as well as more positive feelings about their significant others.

The second section of the review of literature focused on the chronological development of Interpersonal Process Recall as a training mechanism for improving interpersonal communications. Researchers in IPR have found that the utilization of modern technology including physiological feedback, videotape playback, and film simulation can be of great help to the trainee's efforts to improve his affective sensitivity and functioning. Specifically, the process includes a series of short lessons with a dyadic presentation of IPR concepts, then to film vignettes of simulation exercises, to videotape and physiological feedback exercises to study of the self, to feedback from trainers and other trainees, and ultimately to an understanding and skill at dealing with interpersonal relationships and interaction.

# Design of the Study

At the suggestion of Drs. J. Bruce Burke and Norman Kagan, a semantic differential was administered to the

students of the Eaton Rapids Intermediate School who were in attendance for both the pre-test in September of 1975 and the post-test in January of 1976. The semantic differential is an instrument designed to evaluate the respondees' attitudes about themselves on a predetermined concept of a series of bipolar adjective scales. Each adjective scale has seven possible choices ranging in numerical value from one to seven with the number four always representing the neutral position. An adjective pair is listed, such as Relaxed/Tense. The respondee chooses on the scale according to his/her perceived agreement with either of the bipolar adjectives. The greater the perceived agreement, the further away he/she will rate the concept from the neutral (4) position. The strongest possible reactions to a given concept would be a choice of (1) or (7) on the scale.

The concepts used in the study were: self, fellow students, and teachers. Research with the semantic differential has shown that many common concepts can be seen as connotatively defined by several independent semantic dimensions. Four dimensions were used in this study: understandability, evaluative, potency, and activity.

Administering the instrument on such a large scale presented some difficulties. In September of 1975 there were 865 students enrolled in the school. Since the

design for this study called for a repeated measure's technique to be employed, it was necessary to match preand post-tests by student code numbers. It was recognized at the onset that data loss would result not only from the student's failure to take both the pre- and post-test but also due to student error in coding the instruments. In addition, all students who had changed their their schedules at any time between the pre- and post-tests were eliminated from the study. The number of students completing both the pre-test and the post-test for each of the concepts were as follows: self, 397; teachers, 400; and fellow students, 400.

Because of the fluid nature of the school, it was expected that both trained and untrained teachers would interact with each other and that students with varying amounts of contact with IPR and non-IPR-trained teachers would interact with each other. It was also expected that students would interact with teachers to whom they were not regularly assigned. The focus of this study was twofold. First, to study whether or not it is necessary to train all faculty members in IPR for there to be a positive effect on students' attitudes, and second, to study student reaction to teachers who had completed the full course of the IPR training as compared with those teachers who had experienced only the two-day workshop. Further, it was felt that change

might occur in proportion to the amount of assigned contact hours per day the students had with teachers who had completed the training as compared with changes after contact with teachers who had not completed the full IPR training process.

The two general research questions to be tested by the semantic differentials were:

- 1. The attitudes of all students in the Eaton Rapids Intermediate School toward themselves, their fellow students, and their teachers will be more positive after the introduction of Interpersonal Process Recall into the school.
- 2. The more assigned contact hours that the Eaton Rapids Intermediate School students have with IPR-trained teachers the more positive their attitudes will be toward themselves, their fellow students, and their teachers.

## Analysis

The analysis of all data for this study was done at the Computer Center at Michigan State University. The program for the computer analysis of the data was prepared by the Office of Research Consultation, College of Education, Michigan State University.

To answer both general research questions, the data were tested by the repeated measures multivariate analysis of variance.

## Conclusions

The following conclusions were derived from the data collected from the semantic differentials administered in September of 1975 and again in January of 1976.

Concept of Teachers

- After the introduction of IPR into the Eaton Rapids Intermediate School the students rated their teachers higher on the evaluative dimension.
- The more assigned contact hours that the Eaton Rapids Intermediate School students had with IPR-trained teachers the more positive they viewed their teachers in terms of the evaluative dimension.

The data shows a marked increase in the ratings by students on their concept of their teachers in the evaluative dimension. On the pre-test the cell means for all five groups were less than 4 (the neutral position on the semantic differential) whereas on the post-test the cell means were all higher than 4. In other words, after having IPR-trained teachers in the school for a semester, the students viewed their teachers as fair, good, relaxed, beautiful, valuable, pleasant, and happy.

The data also showed an increase which is positively correlated with the increasing number of contacts with IPR-trained teachers. When comparing Group 1 (no assigned contacts with IPR-trained teachers) and Groups 2 3, 4, and 5 (from one to four assigned contacts with IPR-trained teachers), the difference was significant. This is interpreted to mean that the more contact hours per day that students had with IPR-trained teachers the more the students viewed their teachers as fair, good, relaxed, beautiful, valuable, pleasant, and happy.

- 3. After the introduction of IPR into the Eaton Rapids Intermediate School the students rated their teachers higher on the activity dimension.
- 4. The more assigned contact hours per day that the Eaton Rapids Intermediate School students had with IPR-trained teachers the more positive they viewed their teachers in terms of the activity dimension.

The data show a definite increase in the students' ratings of their teachers in the activity dimension. Specifically, the student body, when taken as a whole, viewed their teachers as more active, fast, sharp, exciting, successful, and interesting on the post-test at the end of the semester than they did on the pre-test at the beginning of the semester.

Again, the data show an increase which is positively correlated with the increasing number of contacts with IPR-trained teachers. When comparing those students who had no assigned contacts per day with IPR-trained teachers (Group 1) with those students who had one or more assigned contacts per day with IPR-trained teachers, the difference was significant.

5. After the introduction of IPR into the Eaton Rapids Intermediate School the students rated their teachers lower on the potency dimension.

The data show a definite decrease in the students' rating of their teachers in the potency dimension. In other words, after having IPR-trained teachers in the building for a full school semester, the students rated their teachers as weaker, more agitated, shorter, smaller, shallower, and more feminine than they did on the pre-test at the beginning of the study.

6. After the introduction of IPR into the Eaton Rapids Intermediate School the students rated their teachers lower on the understandability dimension.

The data clearly show a decrease in the students' ratings of their teachers in the understandability dimensions. Thus, it can be interpreted that after having IPR-trained teachers in the school for a full semester the students viewed their teachers as more complicated, more unpredictable, more mysterious, and stranger than they did at the onset of the study.

# Concept of Self

- 1. After the introduction of IPR into the Eaton Rapids Intermediate School the students rated themselves higher on the evaluative dimension.
- 2. The number of assigned contact hours that the Eaton Rapids Intermediate School students had with IPR-trained teachers had no significant effect on their ratings of themselves on the evaluative dimension.

The data clearly show that the students rated themselves more positive on the evaluative dimension on the post-test than they did on the pre-test. It appears that the students saw themselves as more valuable and happy people at the end of the semester. The shift, for example, for the student's self rating in the evaluative dimension was from a mean of 3.16 on the pre-test to a mean of 4.83 on the post-test. The analysis for group effect, however, showed that there was no significant difference in the amount of change between the various groups of students.

- 3. After the introduction of IPR into the Eaton Rapids Intermediate School the students rated themselves higher on the activity dimension.
- 4. The number of assigned contact hours that the Eaton Rapids Intermediate School students had with IPR-trained teachers had no significant effect on their ratings of themselves on the activity dimension.

Again, the data clearly shows a significant positive increase from pre-test to post-test in the students' ratings of themselves in the activity dimension. This is interpreted to mean that after a semester of having IPR-trained teachers in the school the students viewed themselves as more active, faster, sharper, exciting, successful, and interesting people than they did at the beginning of the semester. As with the evaluative dimension, however, this positive pre to post change must be generalized to the student body as a whole since the group effect was not significant.

- 5. After the introduction of IPR into the Eaton Rapids Intermediate School the students rated themselves lower in the potency dimension.
- 6. The number of assigned contact hours that the Eaton Rapids Intermediate School students had with IPR-trained teachers had no significant effect on the students' ratings of themselves in the potency dimension.

There was a significant change from pre-test to post-test by the students when rating themselves in the potency dimension. This change was, however, counter to prediction. Thus, the students viewed themselves as less potent at the end of the semester than they did at the beginning of the semester under study. This change was not significantly correlated with the number of contact hours per day students had with IPR-trained teachers.

- 7. After the introduction of IPR into the Eaton Rapids Intermediate School the students rated themselves lower in the understandability dimension.
- 8. The number of assigned contact hours that the Eaton Rapids Intermediate School students had with IPR-trained teachers had no significant effect on the student's ratings of themselves in the understandability dimension.

The students' ratings of themselves in the understandability dimension changed significantly from pre-test to post-test. This change was in a negative direction which was counter to prediction. This is interpreted to mean that after a semester of having IPR-trained teachers in the school the respondents viewed themselves as more complicated, less predictable, more mysterious, and stranger than they did at the beginning of the study. Again, the amount of assigned contact hours that students had with IPR-trained teachers was not significant. In other words, the various contact groups did not significantly differ from one another.

### Concept of Fellow Students

- 1. After the introduction of IPR into the Eaton Rapids Intermediate School the students rated their fellow students more positively in the evaluative dimension.
- 2. The number of assigned contact hours that the Eaton Rapids Intermediate School students had with IPR-trained teachers had no significant effect on their ratings of their fellow students in the evaluative dimension.

The students' ratings of their fellow students in the evaluative dimension significantly changed in a positive direction from pre-test to post-test. This is interpreted to mean that the students, as a whole, considered their fellow students to be fair and valuable people after having IPR-trained teachers in the building for a semester. On the other hand, it did not seem to make any difference how many actual contacts the students had each day with IPR-trained teachers since the group effect was shown by the data not to be significant.

- 3. After the introduction of IPR into the Eaton Rapids Intermediate School the students rated their fellow students more positively in the activity.
- 4. The number of assigned contact hours that the Eaton Rapids Intermediate School students had with IPR-trained teachers made no difference in their ratings of their fellow students in the activity dimension.

The data clearly show that after a full semester of having IPR-trained teachers in the school the students considered their fellow students to be more exciting and interesting people. Again, it made no difference how many assigned contact hours the students had with IPR-trained teachers each day since the group effect was shown by the data to be not significant.

- 5. After the introduction of IPR into the Eaton Rapids Intermediate School the students rated their fellow students lower on the potency dimension.
- 6. The number of assigned contact hours that the Eaton Rapids Intermediate School students had with IPR-trained teachers made no difference in their ratings of their fellow students in the potency dimension.

The data show that after a semester of having IPR-trained teachers in the school the students saw their fellow students as less potent people (i.e., weaker, more passive, shallower). This is contrary to the original prediction made for this study. This decrease in rating was consistent enough across all five groups to cause the group effect to be not significant.

- 7. After the introduction of IPR into the Eaton Rapids Intermediate School the students rated their fellow students lower on the understandability dimension.
- 8. The number of assigned contact hours that the Eaton Rapids Intermediate School students had with IPR-trained teachers made no significant difference in the students' ratings of their fellow students in the understandability dimension.

The analysis of the test effect on the understandability dimension shows that the test effect was significant. This is interpreted to mean that the students significantly changed their ratings of their fellow students on the understandability dimension from pre-test to post-test. Contrary to prediction, however, this change was in a negative direction. It therefore appears that the students viewed their fellow students as more complicated, less predictable, more mysterious, and stranger after having IPR-trained teachers in the school for a full semester than they did at the onset of this study. Analysis of the group effect shows no significant difference between the various contact groups.

# Implications for Future Research

This study focused on the relationship between the training of volunteer members of the Eaton Rapids Intermediate School faculty in the theory and practices of Interpersonal Process Recall and the subsequent effect

of the attitudes of the school students. The data provide sufficient evidence to suggest that the IPR training experiences had an observable impact on both teachers and students in the school. Further studies should be undertaken to determine the degree to which this change is maintained as well as to measure the ultimate influence the IPR-trained teacher will have on colleagues over time. Some questions remain unanswered:

- 1. Would a replication of this study using the same training format produce similar results on a similar population.
- 2. To what degree would changes in students' attitudes such as those found in this study be maintained over varying amounts of time.
- 3. Would a study using the same training design in an elementary or senior high school produce similar results.
- 4. To what extent would the required training of an entire faculty affect the attitudes of students.

# Reflections

In both the evaluative and activity dimensions on the concept of teachers there were definite pre to post increases which were not only large but positively correlated with the increasing number of contacts students had with IPR trained teachers. In addition, significant pre to post cell mean increases were found for these two dimensions in the concepts of fellow students and self. Although the number of contact hours per day that students had with IPR-trained teachers was not a significant factor when analyzing the concepts of fellow students and self, it does appear that whatever increase in value the students saw in their teachers was in effect generalized to the entire school. This could be interpreted to mean that IPR training had positively influenced the classroom communication and the "mental hygiene" of the student population.

Other possible explanations do exist. One possible alternative explanation is that there was a generalized improvement in attitudes by the students from September to January which had no relationship to IPR training. While such an interpretation is possible, there are three arguments against it. First, there seems to be a general tendency for attitudes to be most positive at the beginning of a school year and decline each month to a low in early spring, with a slight positive increase toward the end of the year. In this study the post-tests were administered in late January when one would predict attitudes to be at a low point and yet there were significant increases in the evaluative and activity dimensions.

The second argument against an interpretation of chance is based on the data. On the evaluative of activity dimensions of both the self and fellow students, increases

in the ratings were relatively constant irrespective of the number of contacts the students had with IPR-trained teachers. However, on the teachers concept the students' ratings on these same two dimensions differed significantly according to the number of contacts students had each day with IPR-trained teachers. The significant contact group effect results on the teachers concept certainly tends to negate an argument of change by chance.

The third argument against an interpretation of chance is what happened in the potency and understandability dimensions. Whereas the results of the evaluative and activity dimensions showed significant increases, as predicted, the results on the potency and understandability dimensions showed significant decreases. It appeared that while the students viewed themselves, their fellow students, and their teachers as more valuable, more pleasant, more exciting, and more interesting people in January, they also viewed them as weaker and less predictable. At first this information was confusing. However, when one considers the nature and context of this information an alternative explanation is possible.

Since first entering kindergarten these students have been interacting with teachers and have learned to predict them. They have learned to respect the power and authority of teachers and administrators. If the IPR

training altered the behavior of their teachers and through interactions with them the behavior of their fellow students and themselves, the respondents may well have begun to see their teachers, themselves, and their fellow students as less predictable, less familiar people.

Originally developed as a counselor training technique, IPR training places a strong emphasis on inquiry and acceptance of the feelings of others. In addition, many trained teachers credit the training with their having become respectful of the feelings and opinions of their students as well as being more open regarding their own feelings with their students. It is easy to understand that when rather suddenly the students saw their teachers becoming less authoritarian, more willing to negotiate, more accepting and more open, they viewed this new behavior as a sign of weakness and, indeed, quite mysterious behavior. Hopefully, all students will someday interact only with adults who are willing to listen effectively and be strong enough to be open.

APPENDICES

APPENDIX A

OUTLINE OF THE EATON RAPIDS

IPR TRAINING PROGRAM

### OUTLINE OF TRAINING

#### Part I

Welcome and Introductions

Affect Simulation: The Process

Affect Simulation: Vignettes (Stimulus Material)

The Elements of Effective Communication

Exploratory Response

Listening Response

The Affect/Cognitive Dimension

Honest Labeling

The Recall Process: How IPR Works

Examples of Individual Recall

The Inquirer Role and Function

Mini-Labs: Inquirer Training

Discussion of Theory: Why IPR Works

Introduction of Videotaping and Recall Schedule

Note: The above outline is a list of the sequence of training experiences for IPR Training in Schools. Each individual school workshop will adapt this schedule to meet the time variables unique to the school. Times for breaks and discussion will be provided for. APPENDIX B

IPR LOG SUMMARY

IPR LOG SUMMARY

Name \_\_\_\_\_

Lab		1
Experiences	TAPING/RECALL	INQUIRING
	Date	Date
	Time	Time
#1	Partner	Partner
	Room No.	Room No.
	Type of Recall	Type of Recall
	Date	Date
	Time	Time
#2	Partner	Partner
	Room No.	Room No.
	Type of Recall	Type of Recall
	Date	Date
	Time	Time
#3	Partner	Partner
	Room No.	Room No.
	Type of Recall	Type of Recall
	Date	Date
	Time	Time
#4	Partner	Partner
	Room No.	Room No.
	Type of Recall	Type of Recall
	Date	Date
	Time	Time
#5	Partner	Partner
	Room No.	Room No.
	Type of Recall	Type of Recall

APPENDIX C

LOG OF IPR LAB

Please complete this form in duplicate.

### LOG OF IPR LAB

Name	· · · · · · · · · · · · · · · · · · ·		Date _			 
School _						
Type of	Experience:		Were y	ou		
	Individual Recall			the	inquirer?	
	Mutual Recall			the	inquiree?	
	Classroom Recall					
	Other (describe)	•			· · · · · · · · · · · · · · · · · · ·	 

- I. Description of the interaction taped. (If you were the inquirer, please skip this question and go on to question II.) Please include such things as:
  - a. What you did/were doing (i.e., listening to a concern, sharing a concern, discussing a personal problem).
  - b. What other(s) did/were doing (i.e., listening to a concern, sharing a concern, discussing a personal problem).
  - c. What, if anything, of significance happened to you?
  - d. General observations/reactions/feelings.
II. Description of the recall. Please include such things as:a. What, if anything, of significance happened to you?

b. General reactions/feelings/observations.

c. How would you describe your involvement?

d. Insights/learnings/new meanings.

APPENDIX D

SEMANTIC DIFFERENTIALS

ſ	-		you	l fe	el a	bout	; te	ache	rs.	
	CODE NO	Caroly Composition Caroly	فيع	÷.	ļ	Ś	¥ .	÷		
		bad	2 1	2	مح جو ع		۹ <b>7</b> 5	e E	ۍ ,	good
		etrong	i	2	3		5	6	,	weak
		active	ı	ź	3	ē	5	(e)	,	passive
		slow	1	ĩ	3	4	5	6	,	fast
No		upset	į	2	÷		5	6	,	calm
tion		tense	ı	ì	,	ē	5	6	;	relaxed
Š		long	!	2	3	ł	ţ.	6	,	short
	Name	beautiful	ı	ż		4	\$	6	,	ugly
Ľ	First	complicated	1	ž		4	۰,	6	,	simple
Σ	l	đull	ı	2		1	'n	6	•	eharp
		worthless	ı	2	-	Å	ه	6	,	valuable
		predictable	ì	2		•	5	5	•	unpredictable
		large	į	2	٦	4	5	6	•	small
		pleasant	۱	2	3	Ę	5	6	,	unpleasant
		understandable	į	2	3	ä	5	6	,	mysterious
2		shallow	ĩ	ĩ	9	ē	5	ē	,	deep
S		sað	į	į	3	4	5	6	,	happy
		familiar	1	i	3	3	5	Ĝ	?	strange
	- em	exciting	į	ŝ	3	3	5	6	2	oalm
Ē	ž St	unsucces ful	i	2	3	3	5	ŝ	2	successful
ш	ב	feminine	3	2	j	3	5	ē	?	masculine
		interesting	]	3	j	3	, 5	ē	2	boring
		unfair	<u>]</u>	ŝ	3	1	5	ē	2	fair
			]	2	ົງ	3	5	ē	2	

	g -						~~~~	you	1.9 <b>6</b>	Н
	8		A. Carton	çî A			<b>*</b>	e <sup>t</sup>		
		bad	1	2	3	3	5		,	good
		strong	i	Ż	3	į	5	6	,	weak
		active	ı	ź	3	Ē	5	6	7	passive
		slow	1	2	3		5	ē	,	fast
Š.		upset	ļ	2	'n	ł	5	6	,	oalm
Iction		tense	١	2	ı	1	5	ê	,	relaxed
ഗ്ദ	•	long	i	Ž	,	4	5	ę	,	short
	Nam	beautiful	ı	?	3	4	5	6	,	ugly
u.	First	complicated	ı	2	£	4	5	6	,	simple
Σ		dull	1	ž	ı	•	ל	ú	,	sharp
1		worthless	1	ž	3	4	5	6	,	valuable
		predictable	ı.	7	3	Å	5	ñ	,	unpredictable
		large	!	2	٦		5	6	,	small
		pleasant	'n	?	3	Ä	5	6	,	unpleasant
		undere tandab le	į	2	3	ě	5	5	,	mysterious
2		shallow	ĩ	2	3	3	ś	ē	,	deep
Cla		ead	1	ŝ	3	<u>.</u>	5	6	ż	парру
		famillar	1	3	ĩ	Ĩ	5	ŝ	7	strange
	Ê	exciting	ï	2	3	3	5	ê	2	oalm
2	s S T	unsuccesful	ï	2	3	3	5	ŝ	2	successful
Ē	2	feminine	5	2	j	ŝ	5	6	ĩ	masculine
		interesting	3	ĩ	3	ł	5	6	2	boring
		unfair	]	ĩ	<u>;</u>	ĩ	5	ê	2	fair
			]	2	3	3	5	ē	2	
			į	ĩ	3	Ē	5	ŝ	ĩ	
	0.83	30 <del>3</del>			MSU	05-	-109			Michigan State University Printing Service

Mark how you feel about yourself

116

	F	Mark h	ow y ts.	rou f	eel	abo	ut y	our	fe	
	CODE NO	C 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	See.	șî S	and the second sec		¥	÷ •	\$	
		bad	1	2	3	1	5	ê	,	good
		strong	ì	2	ġ	ł	5		,	weak
		active	١	2	3	3	5	6	,	passive
		elas	!	ž	3		5	6	,	fast
Ś		upset	į	ż	1	Ĩ	5	6	,	oalm
ection		tense	١	2	3	4	5	6	,	relaxed
ð	9	long	1	2	.'	ł.	5	6	,	short
	Nam	beautiful	1	2	3	•	5	6	,	ugly
	First	complicated	١	ž	۱	4	5	6	,	simple
₹	1	đull	ı	2	3	4	•.	6	;	sharp
I		worthless	١	2	3	4	5	6	,	valuable
		predistable	1	2	ı	4	٢	6	,	unpredistable
		large	١	2	۲	4	5	6	,	emall
		pleasant	١	2	3	4	5	6	,	unpleasant
		undere tandable	1	2	3	i	5	6	,	mysterious
=		shallow	î	ŝ	.1	4	ŝ	6	,	desp
5		sad	1	ŝ	<b>3</b>	4	5	6	7	happy
		familiar	ï	ì	ĩ	ê	5	6	?	strange
	, ee	exciting	į	2	3	3	5	6	2	calm
-	PC N	unsuccesful	1	2	3	3	5	Ĝ	?	successful
Ē	ت	feminine	į	2	3	Ĩ	ŝ	6	?	masculins
		interesting	3	2	3	3	5	6	?:	boring
		unfair	3	2	<u>;</u>	3	3	ē	?	fair
			]	2	3	3	5	ē	2	
	•	200	Ĩ	2	Ĵ	3	3	ē	2	<b>.</b>
	0.8	307			MSU	OS	109			Michigan State University Printing Service

117

# APPENDIX E

PRE, POST, AND DIFFERENCE SCORES BY CONCEPT AND BY DIMENSIONS FOR THE FIVE CONTACT GROUPS OF STUDENTS ON THE SEMANTIC DIFFERENTIALS

CONCEPT	Pre-	Test	Post	Pre-Post	
Scale Group	x	S.D.	x	S.D.	X Diff.
TEACHERS:					
Evaluative					
Group 1	3.411	.472	4.051	1.172	.640
Group 2	3.325	.526	4.756	1.014	1.431
Group 3	3.321	.541	4.925	1.132	1.604
Group 4	3.236	.461	4.844	1.003	1.608
Group 5	3.281	.564	5.154	1.117	1.873
Activity					
Group 1	3.908	.325	3.853	.853	055
Group 2	3.876	.422	4.452	.985	.576
Group 3	3.797	.473	4.692	1.044	.895
Group 4	3.761	.460	4.657	.938	.896
Group 5	3.820	.551	4.829	1.216	1.009
Potency					
Group 1	4.520	.683	3.952	.613	568
Group 2	4.576	.708	4.087	.786	489
Group 3	4.781	.681	4.298	.737	483
Group 4	4.749	.591	4.307	.624	442
Group 5	4.761	.712	4.378	.841	383
Understandability					
Group 1	3,886	.632	3.857	.707	029
Group 2	4.355	.789	3.852	.820	503
Group 3	4.488	.708	4.053	.635	435
Group 4	4.386	.773	3.957	.657	429
Group 5	4.621	.925	4.250	.857	371

# PRE, POST, AND DIFFERENCE SCORES FOR TEACHER CONCEPT AND FOR DIMENSIONS BY SUB GROUP ON THE SEMANTIC DIFFERENTIAL (N = 400)

_		rest	POST	Pre-Post	
Scale Group	x	S.D.	x	S.D.	$\overline{\mathbf{x}}$ Diff.
SELF:					
Evaluative					
Group 1	3.245	.479	4.658	.846	1.413
Group 2	3.170	.510	4.824	.858	1.654
Group 3	3.233	.527	4.930	1.011	1.697
Group 4	3.290	.471	4.866	.913	1.576
Group 5	3.162	.404	4.839	.927	1.677
Activity					
Group 1	3.670	.433	4.647	.886	.977
Group 2	3.806	.509	4.926	.925	1.120
Group 3	3.812	.473	4.856	.828	1.044
Group 4	3.836	.457	4.775	.810	.939
Group 5	3.633	.536	4.577	1.020	.944
Potency					
Group 1	4.503	.701	4.050	.780	453
Group 2	4.638	.693	4.447	.824	191
Group 3	4.609	.682	4.373	.860	236
Group 4	4.540	.737	4.285	.697	255
Group 5	4.705	.620	4.167	.832	538
Understandability					
Group 1	4.267	.675	4.110	.677	157
Group 2	4.520	.779	3.940	.791	580
Group 3	4.346	.829	3.930	.808	416
Group 4	4.334	.694	4.055	.734	279
Group 5	4.541	.716	4.008	.621	533

# PRE, POST, AND DIFFERENCE SCORES FOR THE CONCEPT OF SELF AND FOR DIMENSIONS BY SUB GROUP ON THE SEMANTIC DIFFERENTIAL (N = 397)

CONCEPT	Pre-	Test	Post	Pre-Post		
Scale Group	x	S.D.	x	S.D.	$\overline{\mathbf{X}}$ Diff.	
FELLOW STUDENTS:						
Evaluative						
Group 1	3.140	.410	4.657	.844	1.517	
Group 2	3.205	.429	4.731	.843	1.526	
Group 3	3.258	.520	4.757	1.000	1.499	
Group 4	3.285	.450	4.686	.893	1.401	
Group 5	3.260	.517	4.489	1.056	1.229	
Activity						
Group 1	3.829	.360	4.721	.696	.892	
Group 2	3.872	.375	4.765	.871	.893	
Group 3	3.984	.440	4.866	.842	.882	
Group 4	3.927	.498	4.814	.796	.887	
Group 5	3.862	.404	4.525	1.141	.563	
Potency						
Group 1	4.429	.640	4.238	.449	191	
Group 2	4.535	.632	4.340	.639	195	
Group 3	4.475	.703	4.379	.704	096	
Group 4	4.428	.704	4.264	.543	164	
Group 5	4.551	.739	4.196	.697	355	
Understandability						
Group 1	4.281	.546	4.200	.552	081	
Group 2	4.629	.739	3.976	.623	653	
Group 3	4.509	.870	3.912	.753	597	
Group 4	4.343	.725	3.860	.609	483	
Group 5	4.631	.886	4.037	.488	594	

# PRE, POST, AND DIFFERENCE SCORES FOR THE CONCEPT OF FELLOW STUDENTS AND FOR DIMENSIONS BY SUB GROUP ON THE SEMANTIC DIFFERENTIAL (N = 400)

BIBLIOGRAPHY

### BIBLIOGRAPHY

#### Books

- Brookover, Wilbur B.; Patterson, Ann; and Thomas, Shailer. <u>Self Concept of Ability and School Achievement</u>. East Lansing: Office of Research and Publication, Michigan State University, 1962.
- Brown, Charles T., and Keller, Paul W. <u>Monologue to</u> <u>Dialogue</u>. Englewood Cliffs, N.J.: Prentice-Hall Inc., 1973.
- Finn, Jeremy D. <u>A General Model for Multivariate Analysis</u>. New York: Holt, Rinehart & Winston Inc., 1974.
- Gardner, John. <u>No Easy Victories</u>. New York: Harper & Row, 1968.
- Glasser, William. Schools Without Failure. New York: Harper & Row, 1969.
- Hamachek, D. E., ed. <u>The Self and Growth, Teaching and</u> <u>Learning</u>. Englewood Cliffs, N.J.: Prentice-Hall Inc., 1965.
- Holt, John. <u>How Children Learn</u>. New York: Pitman Publishing Corporation, 1967.
- Jersild, A. T. <u>In Search of Self</u>. New York: Bureau of Publications, Teachers College, Columbia University, 1952.
- Mead, George Herbert. Mind, Self and Society. Chicago: University of Chicago, 1934.
- Miller, Gerald, and Steinberg, Mark. Between People: A New Analysis of Interpersonal Communication. Chicago: Science Research Associates, 1975.
- Osgood, Charles E.; Susi, George J.; and Tannenbaum, Perry H. <u>The Measurement of Meaning</u>. Urbana, Ill.: University of Illinois Press, 1957.

- Rogers, Carl. <u>Client Centered Therapy</u>. New York: Houghton Mifflin Company, 1951.
- Rosenthal, Robert, and Jacobson, Lenore. <u>Pygmalion</u> in the Classroom, Teacher Expectation and Pupils' <u>Intellectual Development</u>. New York: Holt, Rinehart & Winston Inc., 1968.

#### Periodicals

- Ames, L. B. "The Sense of Self of Nursery School Children as Manifested by Their Verbal Behavior." Journal of Genetic Psychology 81 (February 1962): 193-232.
- Archer, J., Jr., and Kagan, N. "Teaching Interpersonal Relationship, Skills on Campus: A Pyramind Approach." Journal of Counselling Psychology 20 (1973): 535-541.
- Danish, S. J., and Kagan, N. "Emotional Simulation in Counseling and Psychotherapy." <u>Psychotherapy, Theory</u>, Research and Practice 6 (1969): 261-263.
- Davidson, H. H., and Lang, P. "Children's Perception of Their Teachers' Thinking Toward Them Relating to Self-Perception, School Achievement and Behavior." Journal of Experimental Education 29 (1960): 107-118.
- Engel, Mary. "The Stability of the Self-Concept in Adolescence." Journal of Abnormal and Social Psychology 58 (March 1959): 211-215.
- Flanders, N. A., and Havumaki, S. "The Effect of Teacher-Pupil Contacts Involving Praises on the Sociometric Choices of Students." Journal of Educational Psychology 51 (1960): 65-68.
- Kagan, N. "Influencing Human Interaction--Eleven Years With IPR." Canadian Counsellor 9(2), (April 1975): 74-95.
- \_\_\_\_\_, and Schauble, P. G. "Affect Simulation in Interpersonal Process Recall." Journal of Counseling Psychology 16 (1969): 209-313.
- Kelly, Earl C. "Communication and the Open Self." ETC 11 (Winter 1954): 98.

- Medinnus, Gene R., and Curtis, Floyd J. "The Relation Between Maternal Self-Acceptance and Child-Acceptance." Journal of Consulting Psychology 37 (December 1963): 542-544.
- Morse, W. C. "Self-Concept Data in the University School Project." <u>The University of Michigan Education</u> Bulletin, 1963, p. 52.
- Resnikoff, A.; Kagan, N.; and Schauble, P. "Acceleration of Psychotherapy Through Stimulated Videotape Recall." <u>American Journal of Psychotherapy</u> 24(1), (January 1970): 102-111.
- Stock, Dorothy. "An Investigation Into the Inter Relations Between the Self-Concept and Feelings Toward Other Persons and Groups." Journal of Counseling Psychology 13 (1949): 176-180.
- Young, Darrell D. "The Semantic Differential: Application as an Affective Measure." The Journal of Experimental Education 42(4), (1974): 86-91.

## Dissertations

- Barr, Donald J. "An Investigation of the Change in Self, Peer, Parental and Teachers' Perceptions of Junior High School Students Over a Period of Two Academic Years." Ph.D. dissertation, Indiana University, 1965.
- Campbell, Paul Burton. "Self-Concept and Academic Achievement in Middle Grade Public School Children." Ph.D. dissertation, Wayne State University, 1965.
- Dendy, R. F. "A Model for the Training of Under-Graduate Residence Hall Assistant as Paraprofessional Counselors Using Videotape Techniques and Interpersonal Process Recall (IPR). Ph.D. dissertation, Michigan State University, 1971.
- Godbold, Horace Donald. "A Comparison of Attitudes Towards School, Self-Perception and Achievement of 8th Grade Pupils Attending Junior High School in Communities of Different Levels of Economic Influence." Ph.D. dissertation, University of Michigan, 1967.

- Goldberg, A. D. "A Sequential Program for Supervision of Counselors Using the Interpersonal Process Recall Technique." Ph.D. dissertation, Michigan State University, 1967.
- Grzegorek, A. A. "A Study of the Effects of Two Emphases in Counselor Education, Each Used in Connection with Simulation and Videotape." Ph.D. dissertation, Michigan State University, 1970.
- Heiserman, M. S. "The Effect of Experiential-Video-Tape Training Procedures Compared to Cognitive Classroom Teaching Methods on the Interpersonal Communication Skills of Juvenile Court Caseworkers." Ph.D. dissertation, Michigan State University, 1971.
- Johnson, Axel. "A Study of the Relationship Between Nonpromotion and the Male Student's Self-Concept of Academic Ability and His Perceived Parental, Friends' and Teachers' Evaluations of His Academic Ability." Ph.D. dissertation, Michigan State University, 1967.
- Miller, Clifford D. "An Exploratory Investigation of Self-Concepts of High Achieving Groups of Junior High Pupils as Perceived by Pupils and Their Teachers." Ph.D. dissertation, University of Colorado, 1963.
- Munoz, D. G. "The Effects of Simulated Affect Films and Videotape Feedback in Group Psychotherapy With Alcoholics. Ph.D. dissertation, Michigan State University, 1971.
- Perelli, Dorene Lesly. "The Effect of Teachers on the Self-Concepts of Junior High School Students as Reported by the Students Themselves." Ed.D. dissertation, Cornell University, 1966.
- Spivak, J. D. "The Use of Developmental Tasks for Counselor Training Using Interpersonal Process Recall." Ph.D. dissertation, Michigan State University, 1970.

### Other Materials

- Brookover, Wilbur, et al. <u>Self Concept of Ability and</u> <u>Achievement</u>. Final Report on Cooperative Research Project #1636 entitled <u>Improving Academic Achieve</u>ments Through Students' <u>Self Concept Enhancement</u>.
- Flanders, Ned. <u>Teacher Influence, Pupil Attitudes and</u> <u>Achievement</u>. OE-25040 Cooperative Research Monograph No. 12, U.S. Department of Health, Education and Welfare. Washington, D.C.: Government Printing Office, 1965.
- Ingas, Edward, and Kagan, Norman. "Influencing Human Interaction in Schools--Principals and Program." Pre-publication research report, Michigan State University, East Lansing, Michigan.
- Kagan, Norman. "Influencing Human Interaction--Eleven Years of IPR." Pre-publication paper, Michigan State University, East Lansing, Michigan, n.d.
- , and Burke, J. Bruce. "Influencing Human Interaction in Schools." Unpublished Abstract submitted to the State Department of Education for Title III proposal.
- , and \_\_\_\_\_\_. Influencing Human Interaction in Schools Using: Inter-Personal Process Recall (IPR): A Student Manual. Michigan State University, East Lansing, Michigan, 1974.
- , and Krathwohl, D. <u>Studies in Human Interaction</u>. Final Report. Grant No. OE 7-32-0410-270. Educational Publication Services, College of Education, Michigan State University, East Lansing, Michigan, 1967.

