THE EFFECT OF PUPIL-TEACHER FEEDBACK ON TEACHER FLEXIBILITY AS PERCEIVED BY STUDENTS

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ABSTRACT

THE EFFECT OF PUPIL-TEACHER FEEDBACK
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by Dick Reed

Purpose

The purpose of this study was to determine whether or not a pupil-teacher feedback system significantly increased secondary teachers' flexibility. The study used a post test-only control group design. Ten weeks after the treatment, the 10 members of the control group and the 20 members of the experimental groups were observed 5 different times in their classrooms by high school students trained to use Flanders Interaction Analysis. The students tallied the classroom interation (verbal behaviors). This tally was placed in 10 X 10 matrices for analysis. From these matrices teachers' flexibility (I/D and i/d scores) was calculated.

The study was designed to determine whether or not a four-week program of written or verbal pupil-teacher feedback aids in increasing teacher flexibility in the classroom interaction with students. It was also designed

to determine if there was a significant difference between the impact of verbal feedback as compared with that of written feedback on teacher flexibility.

Procedure

Thirty instructional staff members, teaching non-laboratory classes, were the subjects of this study. The study used all the non-laboratory class teachers in one senior high school, containing grades 9-12.

Teachers were randomly placed in three groups. Experimental group I received eight written feedback forms from their students in a four-week period. Each member of experimental group II participated in four one-hour verbal feedback sessions with six students and the researcher. The 10 teachers of group III acted as the control.

Forty students of the high school were trained to use the Flanders Interaction Analysis. This training took place at the completion of the feedback treatments. Fourteen students, with a coefficient of observer reliability of .89 or better, observed and recorded the interaction in the classes of the 30 teachers 10 weeks after the treatments were completed. The observations were made during 10 consecutive school days. Only one observation was made of any one teacher in any given day. Observations took place during different classes of a teacher by a different student observer each observation period.

Tallies scored by the fourteen observers were placed in the 10 X 10 matrices. From these matrices the I/D and i/d scores were determined. The mean I/D and i/d scores were then calculated for each member and then for the mean score of each of the three groups.

A three-way analysis of variance was used to measure significant difference, at the .05 level, of the mean I/D and i/d scores between Group I, Group II, and the Control Group.

Findings

1. A four-week program of eight written feedback forms was insufficient to cause a measurable increase in teacher flexibility scores.

2. Four verbal feedback sessions, designed to inform teachers how their behavior affected the people in the classroom -- what turns the feedback pupils on, what turns them off, what causes a desire for them to go beyond the classroom in discussion or research -- was found to be insufficient to cause a measurable increase in teacher flexibility scores at the .05 level of significance.

3. There was no significant difference in mean teacher flexibility scores between the teachers who received verbal feedback compared with those who had received written feedback from students.

4. The mean percentage of teacher talk was approximately the same for each group, 65 percent - 68 percent.

Based upon the findings of this study, it is the conclusion of the author that the four-week verbal and written feedback program was not effective in bringing about measurable teacher flexibility change when measured 10 weeks after the program was completed. This measurement was made by the consumers of the teacher behavior the students of the school used in this study who were trained to use the Flanders Interaction Analysis.

THE EFFECT OF PUPIL-TEACHER FEEDBACK ON TEACHER FLEXIBILITY AS PERCEIVED BY STUDENTS

By

Dick Reed

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Dick Reed

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CHAPTER I

INTRODUCTION

A study conducted by Lippett and White, in 1947, reported that children's groups led by democratic procedures were found to be essentially as productive as those led by autocratic procedures, but without the cost of tension, frustration, and aggression that accompanied autocratic leadership.[1]

Flanders, in a study conducted in Minnesota and New Zealand in 1955-57, categorized the interactions of the teacher into direct and indirect verbal behavior. In so doing he found that the students attending classes with more directive teachers scored lower on the revised Hoyt-Grim Student Attitude inventory, measuring feelings toward the teaching situation, than those in classes where the teachers were more indirect. (A low score indicated less

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[1] N. D. Bowers and R. S. Soar, Evaluation of Laboratory Human Relations for Classroom Teachers, Studies of Human Relations in the Teaching-Learning Process; V; Final Report; U. S. Office of Education, Columbia: University of Southern California, 1961.

constructive and desirable student reactions to the teaching situation.)[1]

In another study, data presented by Flanders revealed that the students in his sample of both social studies and mathematics achieved more when taught by teachers who used more acceptance and clarification of student ideas and feelings and less when their teachers used more direction and criticism and less acceptance and clarification.[2]

The conclusion that Flanders emphasized was that the students who had a higher achievement were exposed to flexible patterns of teacher influence. The patterns were described as:

> "The flexible pattern included periods of predominantly direct influence as well as periods of predominantly indirect influence."[3]

From Flanders and other findings it appears that being a flexible teacher is more desirable. For a teacher to become more flexible it is necessary for him to become aware of his present behavior.[4]

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[1]Ned Flanders, Teacher Influence, Pupil Attitudes and Achievement, Cooperative Research, Monograph No. 12 U. S. Department of Health, Education and Welfare (Washington; U. S. Government Printing Office, 1965), p. 58.

[2]Ibid., 95.

[3]Ibid., 110.

[4]John B. Hough, "Changing the Teacher's Instructional Behavior," Michigan Journal of Secondary Education, (VII, Winter 1966), 32-33.

Most teachers know how they ought to behave or which changes would be desirable in order to become more effective instructors. However, as most teachers do not use the readily available information about their spontaneous behavior, a discrepancy can develop between what a teacher thinks he is doing -- his intentions -- and what he actually does -- his overt behavior. It is this difference between intention and action that can be improved by providing a teacher with feedback about his spontaneous behavior.[1]

This study was designed to provide a feedback system to the teachers concerning their behavior. It also provided information that could determine:

1. Whether or not a four-week program of pupil-teacher feedback, consisting of eight independent written forms or four hours of face-to-face feedback with six students, aided in increasing a teacher's flexibility in classroom interaction with students in teacher flexibility scores.
2. Whether or not there was a significant difference due to the type of feedback (verbal or written) a teacher received.

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[1]Ned Flanders, Interaction Analysis in the Classroom: A Manual For Observers, University of Minnesota, 1964.

Purpose

The purpose of this study was to determine if written and verbal pupil-teacher feedback resulted in a significant difference in secondary teachers' teacher flexibility. Teacher flexibility was measured by observations of teachers' classroom interaction (verbal behavior) by high school students trained to use Flanders Interaction Analysis.

The design of this study enabled a group of 20 teachers to receive feedback from their classroom students, focused on the teachers' classroom behavior.

Thirty teachers from a high school were the population of this study. The teachers were non-laboratory teachers. The 30 teachers were randomly assigned to 3 groups, 10 members in each, 2 of which received a treatment lasting 4 weeks, and the third acting as the control population.

Problem that was Investigated

The problem that was investigated in this study was whether or not an organized pupil-teacher feedback system significantly increased teacher flexibility in the classroom. The following general questions were answered:

1. What effect does pupil-teacher feedback have on teacher flexibility in the classroom?

2. Is there a difference in the impact of verbal feedback compared to written feedback on teacher flexibility in the classroom?
3. Can a four-week treatment of a pupil-teacher feedback be effective in causing an increase in teacher flexibility?

Theory

Most of the innovations being discussed, and practiced in various forms, in secondary schools are "surface effect" innovations. There seems to be adequate evidence that the innovations of the near future will be of a process nature rather than structural change. One of these overdue processes is the concept of feedback.[1]

Most of the significant adoptions of new educational or social practice require significant changes in the values, attitudes, and skills of the teacher. Generally the teacher gets very little constructive feedback about the effectiveness of his or her adoption efforts of the new practice.[2]

Teachers receive daily feedback in their classrooms through verbal and non-verbal communication. Non-verbally

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[1]John H. Suehr, "Feedback; the Most Promising Innovation For Secondary Schools," Michigan Journal of Secondary Education, IX (Winter, 1967), 2.

[2]Ronald Lippitt, "The Use of Social Research to Improve Social Practice," American Journal of Orthopsychiatry, XXXV (July, 1965), 668.

the teacher can observe boredom and interest, bewilderment or comprehension, acceptance or rejection. Verbally he can ask direct questions about content, class procedure, and even his own behavior if he has the courage to inquire.

Thus a teacher's behavior in the classroom is a continuing process of interaction with his pupils. Often the interaction is so complex and subtle that the teacher may be unaware of certain aspects. Consequently, a discrepancy often exists between a teacher's goals and his actual behavior in the classroom. Similarly, there is likely to be a marked discrepancy between a teacher's perception of his behavior in the classroom and his pupils' perception of the same behavior.[1]

This can be compared to the quarterback who throws passes to his teammates with his eyes closed. When his eyes are closed he will not complate many passes. But when he opens his eyes he will complete more passes with the receivers. This improvement is due to the knowledge of results, or "feedback."

A teacher may be visualized as "passing" his behaviors, gestures, and words to the pupils (receivers). How many of these communication passes are completed with the

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[1]Robert Fox, Margaret Barron Luszki, and Richard Schmuck, Diagnosing Classroom Learning Environments; Teacher Resource Booklets on Classroom Social Relations and Learning, (Chicago: Science Research Associates, Inc., 1966), 51.

students, understood, and learned from the teacher may depend in part on the amount and kind of feedback the teacher receives from his students.[1]

Constructive feedback from student to teacher should increase the effectiveness of the teacher's interaction with students without causing any great organizational structure change or incurring an expense to the educational system.

Significance

Educational systems are in a continuous search of ways to improve the learning conditions for students. One can observe this in the organizational innovations in some schools over the past few years; for example, modular schedules, nongraded schools, and changing of group sizes for various learning activities.

This study was designed to furnish a feedback system, which is important for teacher improvement and growth. It is also designed so that the treatment may be used by any given principal, with a staff, who is interested in improving the learning environment for the students in a given school without bringing in outside consultants.

For the purpose of this study the following assumptions are necessary:

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[1]N. L. Gage, Philip J. Runkel, and B. B. Chatterjee, Equilibrium Theory and Behavior Change: An Experiment in Feedback from Pupils to Teachers, (University of Illinois: Bureau of Education Research, 1960), p. 1.

1. Feedback verbal and non-verbal is present and available to the teacher in the classroom.
2. Feedback can be organized to give an instructor information about his behavior and how it affects the students in the classroom.
3. Feedback effect can be measured by the behavior change of the teacher.
4. Verbal behavior of a teacher is an adequate sample of his total behavior; that is, his verbal statements are consistent with his non-verbal gestures.

The following hypotheses were tested:

Hypothesis one:

The mean teacher flexibility score of experimental group I, receiving pupil-teacher written feedback, will be significantly higher than that of the control group as measured by high school student observers trained to use the Flanders Interaction Analysis.

Hypothesis two:

The mean teacher flexibility score of experimental group II, receiving pupil-teacher verbal feedback, will be significantly higher than that of the control group as measured by high school student observers trained to use the Flanders Interaction Analysis.

Hypothesis three:

The mean teacher flexibility score of experimental group II, receiving pupil-teacher verbal feedback,

will be significantly higher than that of experimental group I, receiving pupil-teacher written feedback, as measured by high school student observers trained to use the Flanders Interaction Analysis.

Definition of Terms

1. Pupil-teacher feedback system -- a process of a four-week duration in which teachers received either written or oral student impressions focusing on the teacher and his behavior in the classroom (Appendix A). Two forms were used weekly. The eighth form was either designed by the teachers in the experimental groups or the teacher selected six students from one of his classes, who met as a group for one hour per week during the four-week period. The interaction of this group focused on the students' perception of the class and the teacher's classroom behavior.
2. Teacher flexibility -- teacher behavior that exhibits a wide range of both direct and indirect verbal influence in the classroom. This was measured by the Flanders Interaction Analysis Instrument. The sequence of verbal activities was tabulated separately for homogeneous activities. From this tabulation teacher flexibility was a

measure of the ratio of indirect influence to direct influence in one activity period, compared with the corresponding ratio in other activity periods.

Direct influence -- the enumeration of a series of verbal statements occurring in a sequence, that restricts alternate action of the student.

Indirect influence -- the enumeration of a series of verbal statements, occurring in a sequence, that expands freedom of action and usually makes a student less dependent on the teacher.

3. Flanders Interaction Analysis -- instrument used by trained classroom observers to record the sequence of verbal communications taking place in the classroom. It consists of three main areas of classifications:
   1. Teacher talk exhibiting indirect verbal influence
   2. Teacher talk exhibiting direct verbal influence
   3. Student talk (categories may be found in Appendix B)
4. Non-laboratory classes -- classes taught in high school with the exclusion of: vocal music, instrumental music, art, home economics, industrial arts, and physical education.

Limitations

The high school and the population involved in this study were selected for the author's convenience. The subjects in the study were all teaching staff members of one school.

The reader must infer the generalizations of the resultant data to his own individual situation.

Summary

The purpose of this study was to determine if a pupil-teacher feedback system significantly increased secondary teachers' teacher flexibility. The study used a post test-only control group design. Ten weeks after the treatment the 10 members of the control group and the 20 members of the experimental groups were observed in their classrooms by high school students trained to use the Flanders Interaction Analysis. The students tallied the classroom interactions, which were placed in a 10 X 10 matrix from which teacher flexibility could be measured.

The study was designed to add to the present knowledge of education by providing information that could determine not only whether or not a four-week program of written and verbal pupil-teacher feedback aids in significantly increasing a teacher's flexibility in the classroom interaction with students, but also if there is a significant difference between the impact of verbal feedback and written feedback on teacher flexibility.

Overview of Organization

The study is organized into five chapters. Following the introductory chapter, a review of the literature significantly related to this study is discussed in Chapter II. The method of investigation is presented in Chapter III. Chapter IV consists of the analysis and discussion of the data in respect to the specific hypotheses. Chapter V includes a summary of conclusions, implications, and recommendations for further research.

CHAPTER II

REVIEW OF LITERATURE

The theme of many books and articles written during this past half century has been a cry for change in our educational institutions. Dr. Mark Chesler charges that "the students' ongoing exposure to dehumanizing and brutal conditions is often overlooked."[1]

In No Easy Victory, John Gardner is certain that 20 years from now we will look back and wonder how we could have tolerated anything so primitive as the teaching practiced in most schools today.[2] Our schools are obsolescent today as judged by what could be done if we were to understand and apply modern knowledge to educational problems.[3]

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[1]Mark A. Chesler, "Dissent and Disruption in Secondary Schools," (Unpublished paper from Project, "Alternative Responses to School Crisis, University of Michigan).

[2]John Gardner, No Easy Victories, (Harper & Row: New York, 1968), p. 70.

[3]Herbert A. Thelen, Education and the Human Quest, (New York: Harper and Row, 1960), p. 1.

The literature reviewed in this chapter focuses on: (1) classroom environment which is conducive to learning, where differences and creativity are valued, and change is perceived as normal and desirable;[1] (2) the teacher influence on the climate, and (3) feedback to the teacher as a means of changing classroom behavior.

Environment

Our adolescent society is seen as the product of rapid technological change; change which has widened the generation gap, making parental knowledge seem outdated and rendering the family incapable of adequately socializing the child. Thus society has, by extending the period of training necessary for a child to take his place in this global community, established the school as a primary socializing agency.[2] The child is spending an increasing amount of his time in group life of the school, which assumes more and more responsibility for his development.

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[1] Perceiving, Behaving, Becoming, Association for Supervision and Curriculum Development Yearbook, (Washington, D. C.: National Education Association, 1962), p. 148.

[2] Edward L. McDill, Edmund D. Meyers, Jr., and Leo C. Rigsby, Source of Educational Climates in High Schools, Final Report Project No. 1999, Contract OF-3-10-080 (U.S. Department of Health, Education, and Welfare, December, 1966), p. 2.

An ingredient of group effectiveness is the climate or environment in which it functions. Climate is a complexity of beliefs, feelings and attitudes of group members.[1] The climate determines the process or behavior patterns that are acceptable to use in the learning tasks.

H. H. Anderson's study of climate, in Minnesota, involved dominative and integrative contacts of the instructor. When either type of contact predominated, it spread throughout the classroom into the group. An integrative contact stimulated further integrative contacts which caused learners to show more spontaneity and initiative, voluntary social contributions, and acts of problem solving. Dominative contacts incited further domination, which was found to cause learners to be more easily distracted from school work and show more compliance to, as well as rejection of, instructor domination.[2]

This reinforced the findings of Lippett and White. They found that a democratic climate was essentially as productive as those led by autocratic procedures, but

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[1]O. F. Peterson, "Leadership and Group Behavior," Leadership in Action, (Washington: National Education Association, 1961), p. 29.

[2]Ned Flanders, Teacher Influence, Pupil Attitudes and Achievement, U.S. Department of Health, Education and Welfare OE-25040 Cooperative Research Monograph No. 12, (Washington: U.S. Government Printing Office, 1965), p. 10-13.

without the cost of tension, frustration, and aggression that accompanied autocratic leadership.[1]

The setting of an environment for learning is essentially a matter of facilitating certain group norms[2] which permit the individual to learn. Gibb outlined four norms that must be present for an effective learning environment:

1. A supportive atmosphere[3] - nonthreatening and nondefensive[4] where the learner is wanted, respected and dignified.[5] This atmosphere should enhance individual's feelings of worth and acceptance by the group -- each individual accepts and prizes his own uniqueness, thus strengthening his

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[1]H. D. Bowers and R. S. Soar, "Evaluation of Laboratory Human Relations for Classroom Teachers," Studies of Human Relations in the Teaching-learning Process, V Final Report, U.S. Office of Education Cont. No. 8143 (Columbia: University of Southern California, 1961), p. 2; and J. G. Withall, "The Development of a Technique for the Measurement of Social-Emotional Climate in Classrooms," Journal of Experimental Education XVII, (1949), p. 95.

[2]J. R. Gibb, "A Climate for Learning," Adult Education, (Summer, 1958), IX, p. 19.

[3]Ibid., p. 19.

[4]Richard Schmuck, Mark Chesler, Ronald Lippitt, Problem Solving to Improve Classroom Learning, (Chicago: Science Research Associates, Inc., 1966), p. 69 and Withall, p. 347.

[5]Fred T. Wilhelms, ed. Evaluation as Feedback and Guide, (Washington: National Education Association, 1967), p. 98.

self-image while still maintaining group security.[1]

2. Intrapersonal and interpersonal exposure of ideas and feelings[2] - a sharing of self must permit the individual to look at himself and see how his ideas and feelings are seen by others.[3] In order to learn anything significant a social animal must have active and compelling interaction with his fellow beings. This interaction may be verbal or nonverbal.[4]

3. Feedback - a return to the person exposing himself to the perceptions of others of the adequacy of what was presented.[5] This feedback should be descriptive rather than evaluative. By avoiding judgmental and evaluative language, the person receiving the feedback does not have to react defensively and

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[1]Ronald C. Doll, ed. Individualizing Instruction, Association for Supervision and Curriculum Development Yearbook, (Washington: National Education Association, 1964), p. 100 and Robert Fox, Margaret Barron Luszki, and Richard Schmuck, Diagnosing Classroom Learning Environments, Teacher Resource Booklets on Classroom Social Relations and Learning (Chicago: Science Research Associates, Inc., 1966), p. 23, and Gibb, p. 20.

[2]Ibid., p. 19.

[3]Bowers and Soar, p. 11.

[4]Gibb, p. 19.

[5]Ibid., p. 20.

make rationalizations about his behavior.[1] When too much of the learner's energy is consumed in defending his ego and maintaining his own security, the learner has little energy left for exploration.[2]

4. Exploratory behavior - receptive attitudes toward discovery promote an enthusiasm for learning.[3] The learner must feel free to share tentative solutions and partially formed ideas with others, explore and experiment with new ways of dealing with feelings.[4]

These four norms of an effective learning environment are merely references to those qualities that should consistently predominate in most teacher-pupil contacts and contacts among pupils. Perkins findings in his 1949 dissertation indicated that significantly more child development concepts were expressed in group-centered climates than in leader or teacher-centered climates.[5]

Group-centered, or student-centered climates, are less teacher dominated and do not create a high dependency relationship with the instructor. In a condition of high

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[1]Schmuck, Chesler, Lippitt, p. 67.

[2]Gibb, p. 20.

[3]Doll, p. 102.

[4]Bowers and Soar, p. 14 and Gibb, p. 20.

[5]H. V. Perkins, "Climate Influenced Group Learning," Journal of Educational Research, XLV (October, 1951), 116.

dependency a pupil is too concerned with his relationship to the teacher to be completely objective about the learning task.[1]

When students are involved directly in the decisions that are relevant to their work and life, they develop a higher state of morale and implement the decisions more effectively.[2] This has been quite evident in the growth of our country. An increase in human freedom will generate a rise in human productivity -- whether productivity is measured in terms of ideas and the arts or in terms of economic goods and services.[3]

In our country there is a great diversity of ways for an individual to succeed. In like manner the educational opportunities must also be various and variously administered[4] to allow more learners to experience success with their behaviors. It is reasonable to assume that the teacher's behavior influences the learning environment,

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[1]Flanders, Teacher Influence, Pupil Attitudes and Achievement, p. 7.

[2]Warren G. Bennis, Changing Organizations, (New York: McGraw-Hill, Inc., 1966), p. 136.

[3]Wilhelms, Fred T., p. 95.

[4]Paul Goodman, Compulsary Mis-Education, (New York: Random House, 1962), p. 61.

since he is placed in this setting by society to manipulate the conditions so as to facilitate learning.[1]

Instructor Influence

It is postulated that learning is most likely to occur when experiences are both meaningful to the learner and occur in non-threatening situations. These conditions for learning are greatly influenced by the classroom teacher's sense. Through his behavior, he sets the prevailing climate. In fact, the teacher's behavior is the most important single factor in setting climate in the classroom, and the teacher's verbal behavior is a representative sample of his total behavior.[2]

The classroom teacher, therefore, in his role as group leader sets the tone of the environment. The effective teacher must then be as much person-centered as he is now content-centered or skilled-centered, enabling him to deal with the learners rather than with content matter.[3]

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[1]Withall, p. 347; and Doll, p. 103; and Donald M. Medley, "Experiences with the OSCAR Techniques," Journal of Teachers Education XIV (September, 1963), p. 267; and Thomas F. Pettigrew, Racial Isolation in the Public Schools, A Report of the U.S. Commission on Civil Rights, (Washington, D.C.: U.S. Government Printing Office, 1967), p. 93.

[2]Withall, p. 347; and Donald M. Medley and Harold E. Mitzel, "Measuring Classroom Behavior by Systematic Observations," ed. N. L. Gage, Handbook of Research on Teaching (Chicago: Rand McNally and Co., 1963), p. 1007.

[3]T. Gordon, "What is Gained by Group Participation?" Educational Leadership VII, (1950), 225; and H. Mitzel and W. Rabinowitz, "Assessing Social-Emotional Climate in the Classroom by Withall's Technique," Psychological Monographs: General and Applied LXVII, (1953), 3.

The most effective teachers have a large repertoire of behavior in which they can present many different influence patterns.[1] These patterns, although not stable, allow identification of a stable profile.[2] It is more realistic to visualize it as a pattern that is constantly changing over time and space. Students working with teachers possessing this ability show more spontaneity and initiative.[3]

In the process of interaction with the learners, the instructor influences them, sometimes intentionally with planned behavior and sometimes consciously without planning.[4] For the most part, their reactions are immediate, spontaneous, and momentary[5] without awareness of his behavior, and the effect of this behavior on the learning process.

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[1]Ned Flanders, Interaction Analysis in the Classroom: A Manual For Observers, (Minneapolis: University of Minnesota, 1964), p. 4; and Jerome S. Bruner, Toward a Theory of Instruction, (Cambridge: Harvard University Press, 1966), p. 71.

[2]Flanders, Interaction Analysis in the Classroom: A Manual For Observers, p. 4.

[3]Ned A. Flanders, "Teacher Influence in the Classroom: I. Research on Classroom Climate." (Unpublished paper, University of Michigan), p. 7; and Flanders, Teacher Influence, Pupil Attitudes and Achievement, p. 58.

[4]Edmund J. Amidon and Ned A. Flanders, The Role of the Teacher in the Classroom; A Manual for Understanding and Improving Teachers' Classroom Behavior, (Minneapolis: Amidon and Associates, Inc., 1963), p. 1.

[5]Jack Frymier, "Teaching the Young To Love," Theory Into Practice VIII, No. 2, (April, 1969), Journal of the College of Education (Columbus: Ohio State University), 43.

The teaching behaviors exhibited by secondary instructors seem to have changed far less during the past 30 years than many other less central aspects of education. Yet it is his behavior and the interaction with learners that is the core of the educational enterprise.

Unless the teacher is aware of his teaching behavior he has no basis for changing it. A teacher needs feedback, concerning his teaching behavior, to improve his teaching, just as much as students need feedback if they are to improve their performances.[1] Feedback alone will not cause an instructor to change in the direction of more student-centered or flexible teaching.

To become more effective, teachers must wish to improve. They must understand a body of instructional principles that will facilitate learning. The teacher must learn to use such teaching behaviors, and to do so the needs feedback concerning his behavior change. Effective behavior change is dependent upon five factors:

1. desire to change
2. awareness of present behavior
3. the identification of a model of the teacher one wants to emulate.
4. feedback concerning progress toward that goal[2]

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[1]John B. Hough, "Changing the Teachers Instructional Behavior," Michigan Journal of Secondary Education VII, (Winter, 1966), 3.

[2]Ibid., p. 33.

5. a supportive atmosphere.

Change Through Feedback

> An essential function of good education is to help the growing child to know himself and to grow in healthy attitudes of self-acceptance.
>
> A teacher cannot make much headway in understanding others or in helping others understand themselves unless he is endeavoring to understand himself. If he is not engaged in this endeavor, he will continue to see those whom he teaches through the bias and distortions of his own unrecognized needs, fears, desires, anxieties, and hostile impulses.
>
> The process of gaining knowledge of self, the struggle for self-fulfillment and self-acceptance is not something an instructor teaches others. It is not something he does to or for them. It is something in which he himself must be involved.[1]

Many teachers know how they ought to behave or changes that would be desirable in order to improve instruction.[2] A significant change by an instructor involves a rearrangement of patterns of power, status, skills, and values. Some may view an anticipated change as "threatening" and reject it, others may view it as "enhancing" and embrace it. In any case, change typically involves risk and fear.[3] Openness, trust, commitment, and risk-taking

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[1]Arthur T. Jersild, When Teachers Face Themselves, (New York: Teachers College Press, Columbia University, 1955), p. 13-14.

[2]Flanders, Interaction Analysis in the Classroom: A Manual For Observers, p. 47.

[3]Bennis, p. 105.

grow only where the climate is supportive.[1] The trust and support of the administration during this period would enhance the change to take place.

As most teachers do not have access to information about their spontaneous behavior, a discrepancy can develop. Often this discrepancy exists between what a teacher thinks he is doing -- his intentions -- and what he actually does -- his overt behavior.[2] Teachers deal with these ever changing conditions in various ways. Many of the ways are inadequate to meet the complexity of classroom phenomena.[3] If he uses this misinformation on which to base his direction for change, he may very well do more harm than good.

The teacher cannot plan change of his behaviors in the classroom unless he knows exactly what is going on there.[4] Feedback from the students is invaluable for the teacher trying to judge the effectiveness of his behaviors. It is a mechanism for the teacher who wants improve his

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[1]Chris Argyris, "T-Groups for Organizational Effectiveness," Harvard Business Review, XLII (March-April, 1964), 73.

[2]Flanders, Interaction Analysis in the Classroom: A Manual For Observers, p. 47.

[3]Schmuck, Chesler, Lippitt, p. 6.

[4]Ibid., p. 23.

teaching behaviors and to learn how well his execution matches his intentions.[1]

It seems important to recognize that the extent to which teachers value the students and desire successful, meaningful relationships with them will influence their receptiveness to the feedback. It will also have a bearing on whether or not they are willing to make changes as a result of the collected feedback and behave in ways that are conducive to positive feelings or reactions on the part of the students.[2]

The feelings a student possesses are facts as real as life and impossible to ignore.[3] These feelings about his instructor, his peers, and his studies are one of the major factors determining how much he will benefit from his classroom experience.[4] This is information the teacher should collect to base his change decisions upon.

Studies support in varying degrees the effectiveness of feedback. For example Gage, Ronkle, and Chatterjee reasoned that giving teachers information about the relative

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[1] Ibid., p. 68.

[2] Marjorie L. Savage, "Pupil Ratings Used in Student Teaching," American Vocational Journal XXXVII, (1962), 29.

[3] Jeanette A. Vanderpol, "Student Opinion Sacred Cow or Booby Trap?" Journal of Teacher Education X, (December, 1959), 409.

[4] Fox, Luszki, and Schmuck, p. 9.

feelings and wishes of their pupils would influence their teaching performance. They hypothesized that through this feedback, the teacher gauged the learning requirement for his pupils and made his teaching more appropriate to student needs and desires. Their experiment attempted to ascertain the extent to which an increased amount of feedback to teachers, regarding their pupils perception of them as teachers, affected their performances. They also checked the accuracy with which the teachers were able to estimate their pupils' perception of them. To accomplish this, the sixth grade experimental teachers were given information as to how their pupils described their teaching behavior and how the pupils viewed the ideal teacher. The control group did not receive this information. The information was obtained by having both groups of pupils respond to a 12-item form rating teacher behavior.

Two months after the experimental group received their pupils' response, the pupils again described their teachers on the rating forms. The amount of teacher behavior change was measured by a comparison of pupil description variation of their teachers between the two testing periods. The hypothesis was that the "teachers" who were furnished the feedback concerning their pupils' responses would change more than those who did not receive this information. More particularly, these teachers would

move more closely to the students' conception of their ideal teacher.[1]

The results not only produced a change in the teacher behavior, but also produced an increase in the accuracy of the teachers' perception of their students' opinions.[2]

As another indication of the usefulness of feedback on altering teacher behavior, Henderson wrote in a discussion of the telling methods vs. the heuristic method of teaching: "Heuristic methods or, more vaguely, the discovery method -- calls for the teacher (person, textbook, or machine) to direct the student's attention to some data. The student then infers from this data. If his inference, as evidenced by his verbal or non-verbal behavior, is correct, the method terminates. The teacher does not state the item of knowledge; the student discovers it.

Characteristic of the heuristic methods is the feedback from the student's behavior to the teacher. The teacher's responses are determined in part by the inferences he draws from the student's behavior, both verbal and non-verbal which he observes. It is this feedback which so dramatically distinguishes these methods. In fact, the role

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[1]N. L. Gage, Philip J. Runkle, and B. B. Chatterjee, Equilibrium Theory and Behavior Change: An Experiment in Feedback from Pupils to Teachers, (Champagne: College of Education, University of Illinois, 1960), p. .

[2]Gordon, p. 19.

of the teacher who employs heuristic methods is closely similar to the role of a student in the teacher's class.[1]

Don Medley's study of the use of closed circuit TV equipment to alter student-teacher behavior is another form of reported feedback. This study was done jointly by the education department of Hunter College of the City University of New York. This study closely paralleled the study of Flanders in that both were concerned with the use of feedback as an effective means of changing student-teacher behavior.

Twenty-minute kinescope recordings were made of 54 subjects, two at the beginning of student teaching and two at the end of their student teaching experience. The films provided the raw data.

Three methods of supervision were used: (1) observation only, (2) kinescope only, and (3) observation plus kinescope. The student teachers receiving treatments one and three (3) were visited by their supervisor five times. Instead of visiting the teachers receiving the two (2) treatment, the student teacher was observed by the supervisor five times in the control room.

After each visit, including observations on the monitor, conferences were scheduled by the supervisor.

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[1]Kenneth B. Henderson, "Research in Teaching Secondary School Mathematics," Handbook of Research on Teaching, ed. N. L. Gage (Chicago: Rand McNally and Co., 1963), p. 1014.

The kinescope recordings were used by the supervisor in whichever manner he felt would be most helpful. Three trained observers viewed the films and recorded objectively the behaviors which took place so that changes could be measured. Student teacher verbal behaviors were categorized, account of student statements were obtained, and "signs" related to important teacher characteristics were recorded.

A scale for scoring the behaviors was devised and the total scores for the student teachers were carefully rated. Then the four films of each were intercorrelated and factor analyzed. Factor analysis yielded eight factors.

The results indicated that there was a general increase in all eight dimensions. The change in mean scores in all eight dimensions was equivalent to a shift from the 42nd to the 58th percentile for the distribution of behavior of all 54 student teachers. In terms of the effect of supervision, the student teacher behavior change was almost twice as great under the "kinescope only" method as those in treatments one (1) and three (3).

These important findings suggest that the key to helping teachers change their teaching behaviors may lie in letting them see their own behavior.[1]

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[1]Donald M. Medley, "Measuring Changes in Student Teacher Behavior -- A Second Look," (Unpublished paper read at the annual meeting of the Association for Student Teaching, Chicago, February 20, 1964).

Student teachers were the subjects in the research done by Richard Ishler at Pennsylvania State University. The verbal behavior of each subject in the control and experimental groups was measured ten times by using Whithall's Social-Emotional Climate Index.

Feedback was provided to the experimental group to reveal the type of verbal behavior they were exhibiting. These were given to the subjects in a conference that followed each observation, in addition to the regular feedback sessions. Five group feedback sessions were held with the experimental group to reinforce the feedback provided during the individual conferences. The study was also designed to help the subjects develop an understanding of the major role of the teacher in creating the classroom climate. No feedback concerning verbal behavior was given to the control group.[1]

Both the control and experimental group became more learner-centered in their verbal behavior. The final Social-Emotional Climate Index scores for the experimental group was higher, which indicated that the experimental group's verbal behavior was more learner-centered at the .01 level than that of the control group.[2]

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[1]Richard Eves Ishler, "An Experimental Study Using Withall's Social-Emotional Climate Index to Determine the Effectiveness of Feedback as a Means of Changing Teacher's Verbal Behavior," (Dissertation, Pennsylvania State University, 1965), p. 30.

[2]Ibid., p. 75.

In 1966, Kevin Ryan used student written feedback in changing behavior of beginning secondary teachers for his dissertation at Stanford University. Like Ishler, he used video tape to measure change. Trained observers viewed the four tapes of each person. Three were taken at the beginning of the student teaching schedule, and the fourth approximately three months later.

The students handed in written feedback concerning six questions about their teacher's behavior and about their own classroom behavior. This information was presented to the teacher subjects in three different ways: (1) group given feedback forms and instructed to read through them, (2) group went over the feedback forms with supervisor, (3) received the information from the supervisor but did not see the forms.[1]

Ryan found no significant behavior difference among the three groups. The conjectures for this lack of change were three in number:

1. Written feedback by students may be an inefficient means of changing beginning teacher's positive reinforcement behavior and the amount of time they speak in class.

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[1]Kevin Albert Ryan, "The Use of Students Written Feedback in Changing Behavior of Beginning Secondary Teachers" (Unpublished Dissertation, Stanford University, 1966), p. 68.

2. The particular feedback process used (Appendix D) may be an ineffective way of bringing about significant behavior change.
3. The dependent variables used in this experiment may have been such that they allowed very little room for improvement.[1]

Summary

The environment in which one is exposed to learning will augment or detour his learning. Research indicates that the greatest influence on the environment is the behavior of the instructor in the classroom. To be most effective in developing an ever improving environment, the instructor must be aware of the process that is taking place. The process takes place so rapidly that a feedback system should be established to assure a reliable conception of verbal behavior.

In the studies reviewed, feedback was shown to be useful in changing teacher behavior. Its degree of effectiveness, however, varied from one study to another. The form in which the feedback was received also varied. In most studies student teachers were used as subjects, which in the opinion of the researcher and others, are atypical teachers.

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[1] Ibid., p. 52-53.

The trained observers, who viewed and rated the subjects on video tapes or in the classrooms, were adults in education. Because of their training, preconceptions of what they think should take place allow them to perceive certain behaviors but prevent them from perceiving others.

In this chapter environment of the classroom, instructor influence on the environment, and change of instructor behavior through feedback of various forms have been explored.

In Chapter III, the design, sample instruments, and procedures are discussed.

CHAPTER III

Design of the Study

This study was designed to determine the significant difference, if any, in secondary teacher's teacher flexibility[1] resulting from written and verbal pupil-teacher feedback. Teachers' flexibility was measured by observations of teachers' classroom interaction (verbal behavior) by high school students trained to use Flanders Interaction Analysis technique.

The Sample: Experimental and Control

Thirty instructional staff members, teaching non-laboratory classes, in a traditionally scheduled, conservative suburban high school in Northeastern Ohio were the subjects of this study.[2] The high school had 42 instructional staff, 30 of which were non-laboratory teachers. All 30 of these teachers were used in the study.

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[1]Teacher flexibility as defined on page 9, item 2 of Chapter I.

[2]Non-laboratory classes are defined on page 10, item 4 of Chapter 1.

Teachers were randomly placed in three groups.[1] Table 3.1 shows the characteristic of the sample according to the random placement of subjects. Throughout the study groups I and II represent the experimental groups.

For purpose of group comparison the data of Table 3.1 were condensed according to age range, median age range, range of years teaching experience, and median years teaching experience.

	Group I	Group II	Control
Age Range	23-48	23-56	29-63
Median Age	31.7	34.9	48.0

Years Teaching Experience is:

	Group I	Group II	Control
Years Range	1-16	1-14	6-27
Median Years	6.9	7.9	15.0

By assigning numerical values of 1 - 6 for a B.A. degree through Masters degree plus 30 hours, the numerical ranges and mean fell as shown:

Degree and Hours	Numerical Value
B.A.	1
B.A. + 15	2
B.A. + 30	3
M.A.	4
M.A. + 15	5
M.A. + 30	6

[1] D. R. Cox, Planning of Experiments, (New York: John Wiley & Sons, 1966), pp. 70-89.

Table 3.1 Characteristics of the Sample

Age Range:	20-25	25-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65
Group I	2	3	3	0	1	1	0	0	0
Group II	2	2	1	3	1	0	0	1	0
Group III	0	2	1	0	1	0	2	2	2

Years Teaching Experience:	0-5	6-10	11-15	16-20	21-25	26-30
Group I	5	3	1	1	0	0
Group II	3	3	4	0	0	0
Control	0	3	2	3	1	1

Sex:	Male	Female
Group I	6	4
Group II	6	4
Control	5	5

Degrees Held:	B.A.	B.A. + 15	B.A. + 30	M.A.	M.A. + 15	M.A. + 30
Group I	2	2	2	3	1	0
Group II	3	0	1	4	1	1
Group III	0	1	5	4	0	0

	Group I	Group II	Control
Numerical Range	1-5	1-6	2-4
Median Degrees	2.9	3.3	3.3

The random assignment of subjects into three groups placed the median age of the control group greater than either of the experimental groups. The mean years of teaching experience of the control group is also more than those of either experimental group. All three groups have a mean educational training degree of B.A. plus 30 hours.

Disciplines taught by each of the three groups are designated in Table 3.2. Subjects of group I taught in six different disciplines, while members of group II taught in five and teachers of group III taught in seven.

Table 3.2 Disciplines taught by Sample

Discipline	Group I	Group II	Control
Bookkeeping	1	0	1
English	2	3	3
Foreign Language	1	0	2
Humanities	0	1	0
Math	2	2	1
Music Theory	0	0	1
Science	2	2	1
Social Science	2	2	1

Instrumentation

The following observational recording techniques were explored and considered by the researcher to measure teacher flexibility:

1. Amidon[1]
2. Flanders[2]
3. Honigman (MACI)[3]
4. Medley - OSCAR[4]
5. Puckett[5]
6. Withall[6]

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[1]Edmund J. Amidon and Ned A. Flanders, The Role of the Teacher in the Classroom; A Manual for Understanding and Improving Teachers' Classroom Behavior, (Minneapolis: Amidon and Associates, Inc., 1963).

[2]Ned Flanders, Interaction Analysis in the Classroom: A Manual For Observers, (Minneapolis: University of Minnesota, 1964).

[3]Fred K. Honigman, Multidimensional Analysis of Classroom Interaction (MACI), (Villanova: Villanova University Press, 1967).

[4]Donald M. Medley, "Experiences with the OSCAR Techniques," Journal of Teachers Education XIV, (September, 1963), p. 260-273.

[5]Donald M. Medley and Harold E. Mitzel, "Measuring Classroom Behavior by Systematic Observations," Handbook of Research on Teaching ed. N. L. Gage (Chicago: Rand McNally and Co., 1963), p. 254.

[6]J. G. Withall, "The Development of a technique for the Measurement of Social-Emotional Climate in Classrooms," Journal of Experimental Education XVII, (1949), pp. 347-61; and H. Mitzel and W. Rabinowitz, "Assessing Social-Emotional Climate in the Classroom by Withall's Technique," Psychological Monographs: General and Applied LXVII, No. 18, (1953), p. 368.

All but the Flanders Interaction Analysis were rejected for one or more of the following reasons:

1. Instrument did not measure the types of behavior sought.
2. Professional judgments were needed in the use of the technique.
3. Too many categories to memorize.
4. Training program needed to obtain a .85 or better[1] coefficient of observer agreement would be too time consuming for high school students.

The observational technique, as mentioned in Chapter I, should be able to be used without needing highly trained observers. If the technique required a great deal of training, there would be a greater chance that the given technique would not be used in most schools. The Flanders instrument met this requirement.

Interaction analysis is concerned primarily with verbal behavior. This can be observed with higher reliability than most non-verbal behavior. The assumption is that the verbal behavior of an individual is an adequate sample of his behavior. In the classroom the instrument assumes that the verbal statements of a teacher are consistent with his non-verbal gestures, in fact, his total behavior.[2]

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[1]Flanders, Interaction Analysis in the Classroom: A Manual For Observers, p. 17.

[2]Ibid., p. 2.

For the above reasons the Flanders Interaction Analysis was the instrument used to categorize teacher verbal behavior. This system is concerned with analyzing the influence pattern of the teacher. The purpose is to record a series of acts in terms of pre-determined concepts. The concepts in this case refer to the teacher's control of the students' freedom of action. The systems of categories are designed to enable observers using the instrument to distinguish acts of the teacher that increase the student's freedom of action from those that decrease them. Both those acts that increase and decrease the students' freedom are recorded.[1]

There are ten behavior categories designed in the Flanders Interaction Analysis system. Seven of the categories are assigned to teacher talk and two to student talk. The tenth category covers pauses, short periods of silence and talk that is confusing or noisy. (Appendix B)

Of the seven categories assigned to teacher talk, categories one through four represent indirect influence:

1. acceptance of feeling.
2. praise or encouragement.
3. accepting ideas.
4. asking questions.

Direct influence is categorized under five through seven:

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[1] Ibid., pp. 1-2.

5. lecture.

6. giving direction.

7. criticizing or justifying authority.[1]

The system of categories is designed for situations in which the teachers and the students are actively discussing.[2]

Teacher flexibility is a measure of Indirect/Direct verbal influence ratio. A measurement of teacher influence can be calculated in either of two ways: the "big Indirect/Direct (I/D) ratio" consists of dividing all the tallies -- column totals -- in categories 1, 2, 3, and 4 by the tallies in 5, 6, and 7[3] of the 10 X 10 matrix. The second manner is using the i/d ratio, which merely excludes categories 4 and 5 and becomes categories 1 + 2 + 3 divided by 6 + 7. By eliminating categories 4 and 5, lecture and asking questions, it gives evidence as to the direct or indirect approach a teacher uses for motivation and control.

Both the I/D and the i/d ratios were used in making comparisons of the mean teacher flexibility score of the two experimental groups and the control group. The I/D ratio is more inclusive because it makes use of all

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[1]Amidon and Flanders, pp. 6-11.

[2]Ned Flanders, Teacher Influence, Pupil Attitudes and Achievement, Cooperative Research, Monograph No. 12 U.S. Department of Health, Education and Welfare (Washington: U.S. Government Printing Office, 1965), p. 21.

[3]Ibid., p. 35.

teacher statements. The i/d ratio eliminates questions and lecture categories and gives clearer evidence of direct or indirect influence used by the instructor and is more independent of the subject matter being taught.[1]

There is an absence of appropriate information on reliability of Flander's instrument. However, Dr. Darwin developed a test of significance for the interaction analysis data. The tabulation required the 10 X 10 matrix.

A composite matrices was made for the five teachers whose classes scored highest and the five whose classes scored lowest on the pupil attitude inventory in New Zealand. These matrices provided a record of verbal events by indicating the frequency that a particular sequence pair occurred for every 1,000 tallies. The numbers in the matrix divided by 1,000 could be seen as the probability of a particular sequence pair occurring in the high scoring and low scoring classrooms, a conception based on the assumption that the observation adequately sampled all verbal interaction in the classrooms.

A Darwin Chi-square test was calculated, using the original matrices as a test of the significance. The probability that the differences between the high and low composite matrices could have occurred by chance was less than .001.[2]

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[1] Ibid., p. 74.

[2] Ibid., pp. 56-58.

Those scoring highest on the Hoyt-Grim Attitude Inventory were under the influence of teachers who used more indirect influence.[1] It is this climate that the researcher tended to create by using the feecback systems and measuring the teacher influence by Flanders technique.

Students are the consumers of teaching behaviors exhibited in the classroom. They have some influence on the climate established but, as indicated by Withall[2] and Medley,[3] the teacher's behavior is the most important single factor in setting classroom climate. The researcher was interested in the consumer's perception of what was taking place in the classroom. The observers in Flanders and others' research have traditionally used teachers, college students training for the teaching profession, supervisors of teachers or college professors. This group is no longer the consumer as viewed by the researcher.

Methodology

Thirty-seven high school students were selected, by the writer, to become involved in a training program to learn observation and recording techniques of the Flanders Interaction Analysis. This training program started two weeks after the two experimental groups had completed their treatments.

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[1] Ibid., p. 64.

[2] Withall, p. 347-361.

[3] Medley and Mitzel, p.

The training program design was taken from the suggested procedures of Ned Flanders and Edmund J. Amidon.[1] Materials found in Appendix B, concerning the categories, their numbers, and meaning were given to each student prior to our first meeting. They were instructed to read the material and to memorize the categories and numbering system before the first meeting.[2]

Eight training sessions of one to two hours duration were held over a four-week period. During this time Flander's Interaction Analysis and the Michigan-Ohio Regional Educational Laboratory training tapes were used to practice categorizing verbal behavior.

Each session would start with a short excerpt for the students to record categories. After they recorded the behaviors they would discuss them in groups of three, noting and discussing their disagreements. Upon completion of this discussion any questions were discussed with all of the students and ground rules were established. These rules of observation aided in developing consistency in categorizing teacher behavior.

A longer section of a class session would then be categorized. If a student had a question, the tape would be stopped and the question discussed before going on with the

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[1] Amidon and Flanders

[2] Ibid., pp. 6-14.

tape. Comparison of the categorical recording was done with one other student, again noting disagreements and discussing these with the entire group.

One more class session would be played without interruption. After the session was completed students would form different dyads and again would discuss and note disagreements.

At the completion of the third week of training the students paired off and observed two classes in the Middle School together. They compared their recordings and noted disagreements and questions. These disagreements and questions were discussed at the next meeting.

The last training session, a seven minute classroom discussion, was categorized and tallied by each student. These tallies were placed in the 10 X 10 matrices and Scott's method of a reliability coefficient was used to establish the coefficient of observer agreement.[1] Table 3.3 contains the coefficient of observer agreement.

Ten weeks from the completion of the treatments for Group I and Group II, the qualified fourteen students recorded the non-laboratory teacher behavior using Flander's Interaction Analysis. The observations were completed during the next ten school days. Only one observation was made of any teacher in any given day.

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[1]Ned Flanders, Interaction Analysis in the Classroom: A Manual For Observers, p. 17.

Table 3.3 Coefficient of Observers Agreement[a] of the Fourteen Observers

Observers	A	B	C	D	E	F	G	H	I	J	K	L	M	N
A		.96	.94	.96	.93	.92	.95	.96	.92	.89	.99	.93	.94	.94
B	.96		.95	.97	.91	.93	.97	.93	.93	.90	.96	.95	.98	.94
C	.94	.95		.94	.92	.93	.96	.93	.96	.92	.93	.98	.95	.93
D	.96	.97	.94		.91	.95	.94	.94	.92	.92	.96	.94	.97	.95
E	.93	.91	.92	.91		.91	.93	.94	.94	.91	.93	.94	.89	.90
F	.92	.93	.93	.95	.92		.91	.97	.95	.95	.92	.93	.94	.93
G	.95	.97	.96	.94	.93	.91		.92	.95	.90	.95	.97	.95	.95
H	.96	.93	.93	.94	.94	.97	.92		.95	.92	.94	.93	.92	.92
I	.92	.93	.96	.92	.94	.95	.95	.96		.92	.92	.96	.92	.91
J	.89	.90	.92	.92	.91	.95	.90	.92	.92		.89	.92	.92	.92
K	.99	.96	.93	.96	.93	.92	.95	.94	.92	.89[c]		.94	.94	.93
L	.93	.95	.98	.94	.94	.93	.97	.93	.96	.92	.94		.94	.93
M	.94	.98	.95	.97	.89	.94	.95	.92	.92	.92	.94	.94		.95
N	.94	.94	.93	.95	.91	.93	.95	.92	.91	.92	.93	.93	.95	

[a] Scotts method of reliability explained in Flanders Interaction Analysis in the Classroom: A Manual For Observers, 1966, pp. 13-16

[b] Each observer coefficient of agreement is compared with each of the other observer. Row is read first; then column.

[c] .89 is the lowest coefficient of observer agreement (Observers I - J).

Observations took place during different classes by a different student observer each observation period. All teachers in the experimental and control groups were observed for a total of five class periods by five observers.

Tallies scored by the 14 observers were placed in the 10 X 10 matrices. This matrix may be found in Appendix C. From these matrices the I/D and i/d ratios were determined for each observation. The mean I/D and i/d ratios were then calculated for each member of the experimental and control groups. The mean I/D and i/d ratios were established for Group I receiving written feedback, Group II receiving face-to-face verbal feedback, and Group III, the control group.

A multivariate analysis of variance[1] was used to measure significant difference, at the .05 level, of the mean I/D and i/d ratios between Group I, Group II and the Control Group.

Statistical Hypothesis

The problem of assessing the influence of the written feedback and the verbal face-to-face feedback upon teacher flexibility was approached by means of three hypotheses. For the purpose of data analysis the hypotheses are

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[1]Samuel W. Greenhouse and Geisser Seymour, "On Methods In The Analysis of Profile Data," Psychometrika XXIV No. 2, (June, 1959), pp. 95-112.

stated in the null form in contrast to the directional statements in Chapter I.

Hypothesis One

H_{o_1} The mean teacher flexibility score of experimental group I, receiving pupil-teacher written feedback, shall not be significantly higher than the control group as measured by high school student observers trained to use the Flanders Interaction Analysis.

H_o: $M_1 = M_3$

Legent: M_1 = Experimental group I mean; M_3 Control group mean.

Hypothesis Two

H_{o_2} The mean teacher flexibility score of experimental group II, receiving pupil-teacher verbal feedback, shall not be significantly higher than the control group as measured by high school student observers trained to use the Flanders Interaction Analysis.

H_1: $M_2 = M_3$

Legend: M_2 = Experimental group II mean; M_3 Control group mean.

Hypothesis Three

H_{o_3} The mean teacher flexibility score of experimental group II, receiving pupil-teacher verbal feedback, shall not be significantly higher than that of

experimental group I, receiving pupil-teacher written feedback, as measured by high school student observers trained to use Flanders Interaction Analysis.

H_3: $M_1 = M_2$

Legend: M_1 = Experimental group I mean; M_2 = Experimental group II mean.

Summary

This study was designed to determine the significant difference, if any, in secondary teachers' teacher flexibility resulting from written and verbal pupil-teacher feedback. Teacher flexibility was measured by I/D and i/d ratios of the Flanders Interaction Analysis instrument.

Thirty non-laboratory teachers, instructing in one high school were the subjects of this study. The high school is located in a conservative town in the northeastern part of Ohio. The educational program is traditional, approved by the Ohio State Department and the North Central Accrediting Association.

Instructors were randomly placed in one of three groups: I, receiving written feedback; II, receiving verbal feedback; III, control group. A posttest-only control group design was selected.

Students were trained to use the Flanders Interaction Analysis. Fourteen of the thirty-seven students had

a coefficient of observer agreement of .85 or better, ten weeks after completion of the four-week treatments. These fourteen students observed the 30 teachers and recorded their behavior tallies. Each teacher was observed five teaching periods in ten school days. No teacher was observed more than once per day and all teachers were observed by five different observers. The behavior tallies were placed in 10 X 10 matrices from which I/D and i/d ratios were calculated.

The groups' mean I/D and i/d ratios were used in the multivariate analysis of variance to determine the significant difference, if any, in teacher flexibility resulting from the two treatments at the .05 level.

CHAPTER IV

ANALYSIS OF DATA

The problem of assessing the influence of written and verbal feedback upon teacher flexibility was approached by three hypotheses. For the purpose of data analysis, all hypotheses were stated in the null form.

Alpha, the level of significance, is set at .05. Hypotheses one, two and three are analyzed primarily by means of a three-way analysis of variance.[1]

Hypothesis One

H_{o_1} The mean teacher flexibility score of experimental group I, receiving pupil-teacher written feedback, shall not be significantly higher than the control group as measured by high school student observers trained to use the Flanders Interaction Analysis. This hypothesis has been divided into two sub-hypotheses.

A statement of the first is:

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[1]Samuel W. Greenhouse and Geisser Seymour, "On Methods In the Analysis of Profile Data," Psychometrika, XXIV (June, 1959), 95.

$s_{H_{o_1}}$ The mean teacher I/D score of experimental group I receiving pupil-teacher written feedback, shall not be significantly higher than that of the control group.

The mean I/D score of each group represents a total of fifty observations per ten teachers. The mean I/D score of experimental group I is .294 in contrast to .620 of the control group. The F value of this analysis is 2.703. An F requirement of 3.37 is needed to show a significant difference at the .05 level. The null hypothesis is not rejected on the basis of this evidence. There is not a measurable significant difference in the mean I/D scores between experimental group I and the control group. The summary data of the three-way analysis of variance is found in Table 4.1.

Table 4.1. Summary data of the three-way analysis of variance

Source	SS	DF	MS	F	F required at .05 level
G	151.736	2	75.867928	2.703	3.34
S:G	757.832	27	28.067839		
RM	229.744	1	229.743974	8.145	4.23
RM:G	173.191	2	86.595561	3.070	3.34
RM:S	761.541	27	28.205227		

$s_{H_{o_2}}$ The mean teacher i/d score of experimental group I, receiving pupil-teacher written feedback, shall not be significantly higher than that of the control group.

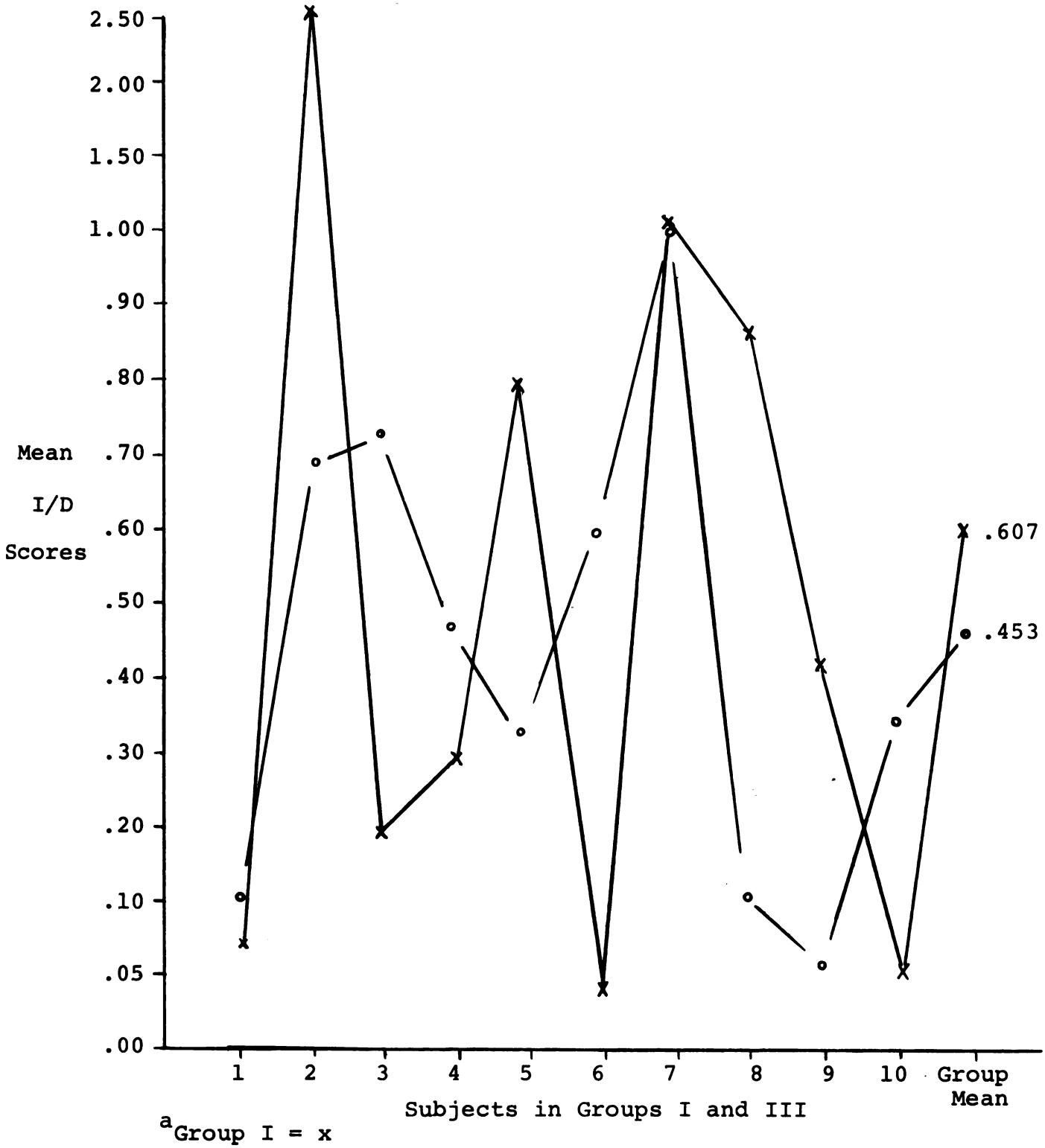
Indirect teacher influence compared to direct teacher influence was analyzed. The mean i/d score of experimental group I was 1.819 compared to 2.116 of the control group. The null hypothesis is not rejected on the basis of the F requirements of 3.34 which is needed at the .05 level of significance. The F of 2.703 does not exceed the required F. There is not a measurable significant difference in the mean i/d score between experimental group I and the control group.

Both subhypotheses of Hypothesis One indicate that the null hypothesis has not been rejected. There is not a significant difference inteacher flexibility when comparing the teacher group who received the seven written feedback forms found in Appendix A, plus the one each member designed for his individual use, and the teachers who did not receive any organized feedback from students.

The graph in Fig. 4.1 visually describes the individual subjects mean I/D score. The mean is taken from the tabulation of five student observations.

Graph of Fig. 4.2 shows the mean i/d placement of each member of group I and the control group.

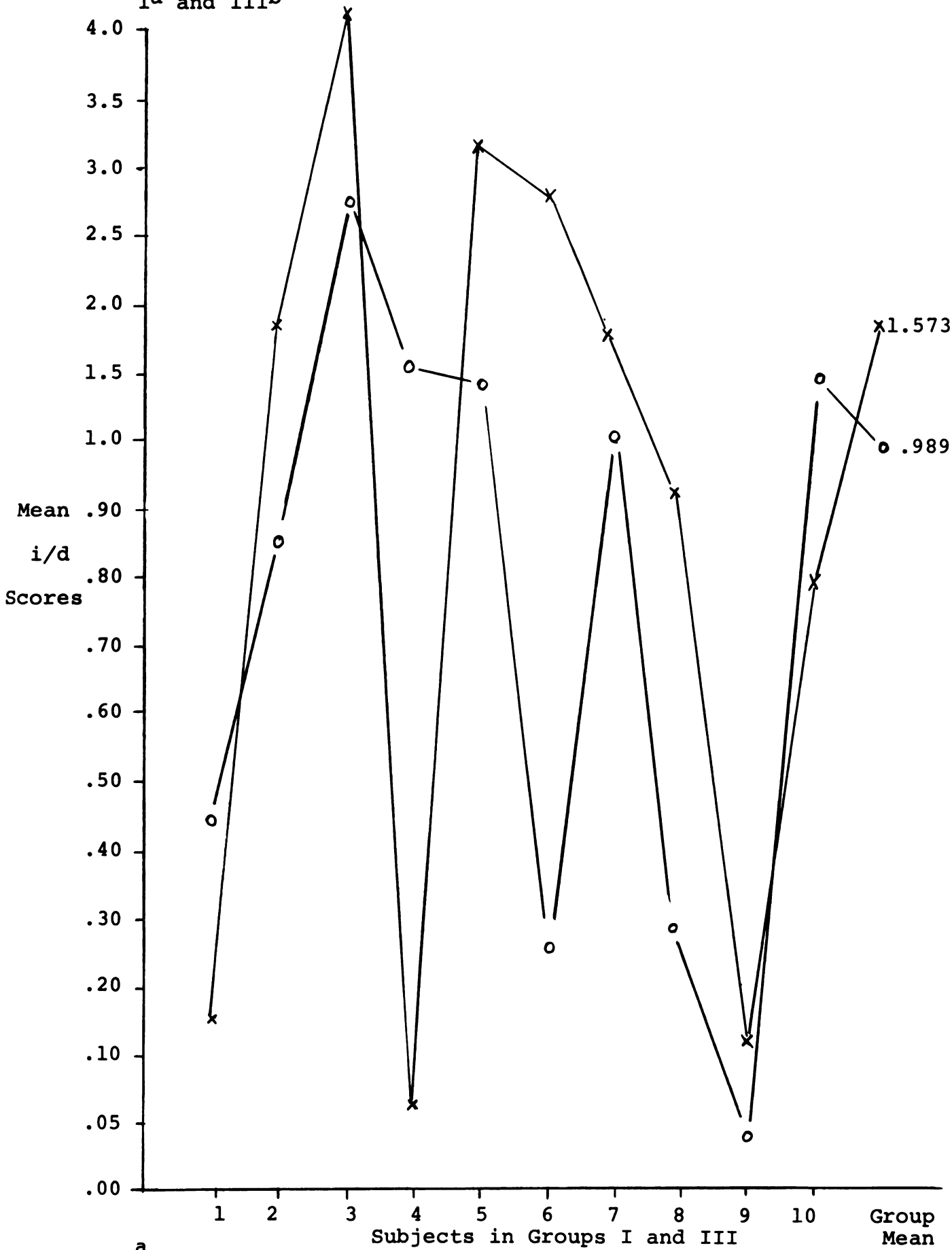
Figure 4.1. Graph of Subjects' Mean I/D Scores in Groups I[a] and III[b]



[a]Group I = x

[b]Group III = o

Figure 4.2. Graph of Subjects Mean i/d scores in Groups I[a] and III[b]



[a]Group I = x

[b]Group III = o

Hypothesis Two

H_{o_2} The mean flexibility score of experimental group II receiving pupil-teacher verbal feedback, shall not be significantly higher than the control group as measured by high school student observers trained to use the Flanders Interaction Analysis.

Hypothesis two, as hypothesis one, has been divided into two subhypotheses.

$s_{H_{o_1}}$ The mean teacher I/D score of experimental group II, receiving pupil-teacher verbal feedback shall not be significantly higher than that of the control group.

Each subject was observed by high school students five teaching periods. The mean score for the I/D ratio was compiled from 50 observations of each group. The mean I/D score of experimental group II is .216 compared to that of .620 for the control group. F exceeds the .05 level of significance at 3.37. F in this comparison is 2.703, thus the null hypothesis is not rejected. The mean teacher I/D score of experimental group II is not significantly higher than that of the control group. (Summary of data in Table 4.1)

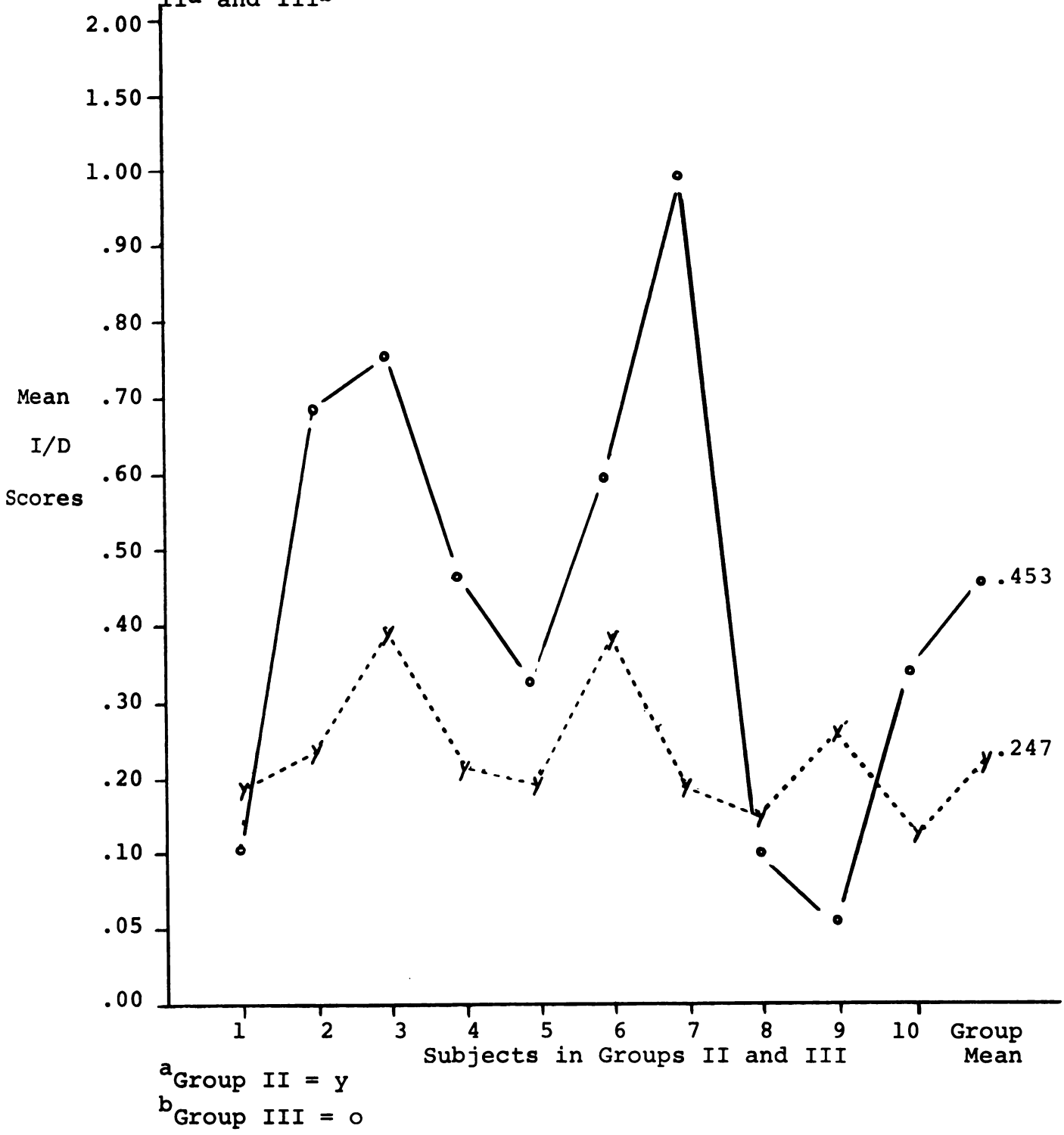
$s_{H_{o_2}}$ The mean teacher i/d score of experimental group II, receiving pupil-teacher verbal feedback shall not be significantly higher than that of the control group.

Indirect teacher influence as compared to direct teacher influence was analyzed. The mean i/d score of experimental group II was 7.901 in contrast to .989 of the control group. The null hypothesis is not rejected on the basis of the F 2.703. F exceeds the .05 level of significance at 3.37. Group II does not have a significantly higher mean i/d score than that of the control group.

Subhypotheses one and two are not rejected in the null form. Therefore, hypothesis two is not rejected in the null form. Teacher flexibility of experimental group II, receiving the face-to-face verbal feedback, did not measure significantly higher than the control group, receiving no formal feedback from students.

The two graphs of Figs. 4.3 and 4.4 illustrate the individual mean I/D and i/d scores of the subjects in experimental group II and the control group.

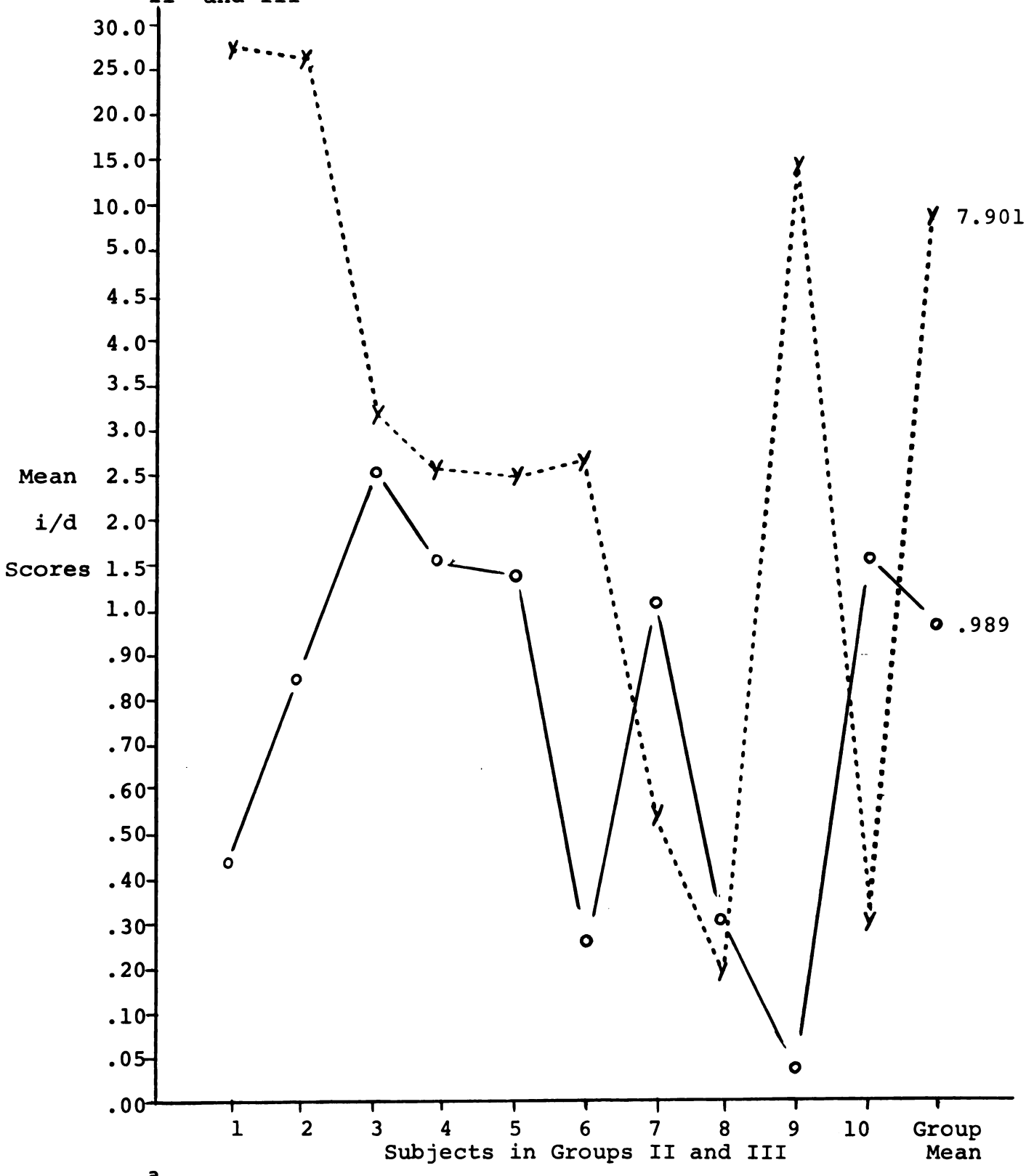
Figure 4.3. Graph of Subjects' Mean I/D scores in Groups II[a] and III[b]



[a]Group II = y

[b]Group III = o

Figure 4.4. Graph of Subjects' Mean i/d scores in Groups II[a] and III[b]



[a]Group II = y

[b]Group III = o

Hypothesis Three

H_{o_3} The mean teacher flexibility score of experimental group II, receiving pupil-teacher verbal feedback, shall not be significantly higher than that of experimental group I, receiving pupil-teacher written feedback, as measured by high school student observers trained to use Flanders Interaction Analysis.

Hypothesis three has been divided into two subhypotheses.

A statement of the first is:

$s_{H_{o_1}}$ The mean teacher I/D score of experimental group II, receiving pupil-teacher verbal feedback, shall not be significantly higher than that of experimental group I, receiving pupil-teacher written feedback.

The mean I/D score of experimental group II is .247, compared to .607, the mean I/D score of group I. The I/D mean score of both groups was computed from 50 student observations (five per teacher, ten teachers in each group). F exceeds the .05 level of significance at 3.37. F in this calculation is 2.703, thus the null hypothesis is not rejected. The mean teacher I/D score of group II, receiving verbal feedback, does not measure significantly higher than that of group I, receiving pupil-teacher written feedback, at the .05 level of significance (summary of data in Table 4.1).

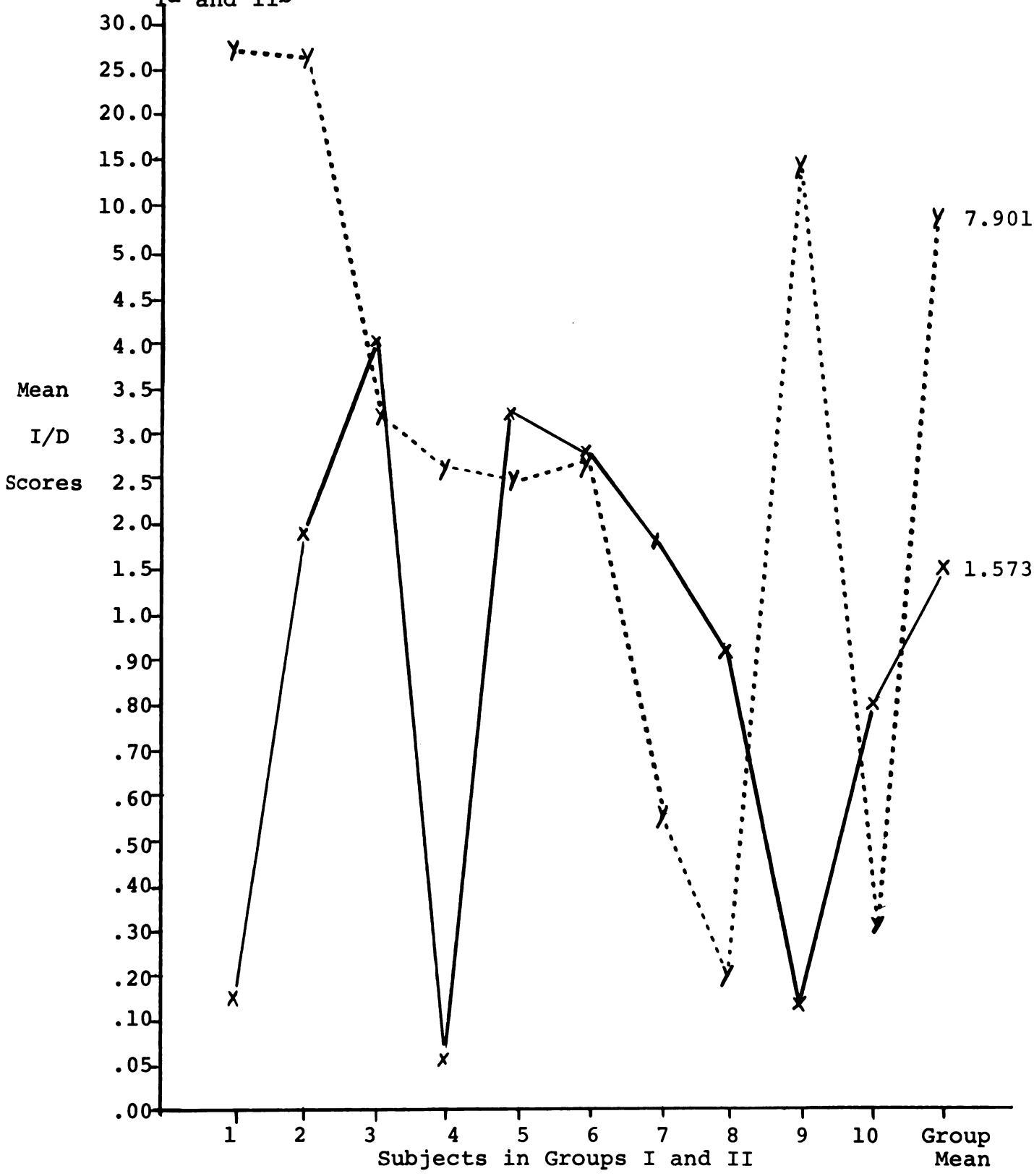
$s_{H_{o_2}}$ The mean teacher i/d score of experimental group II, receiving pupil-teacher verbal feedback, shall not be significantly higher than that of experimental group I, receiving pupil-teacher written feedback.

The indirect teacher influence, compared to direct teacher influence, of both experimental groups was analyzed. Group II's mean i/d score was 7.901 where group I's mean i/d score was 1.573. The null hypothesis is not rejected on the basis of the F value of 2.703. An F exceeding 3.37 is necessary to reject the null hypothesis at the .05 level of significance.

Subhypotheses one and two are not rejected in the null form. Hypothesis three is therefore not rejected in the null form. The mean teacher flexibility score of experimental group II, receiving pupil-teacher verbal face-to-face feedback, did not significantly exceed the mean teacher flexibility score of experimental group I receiving pupil-teacher written feedback.

Figs. 4.5 and 4.6 contain graphs which visually represent the individual subject's mean I/D and i/d scores of experimental groups I and II.

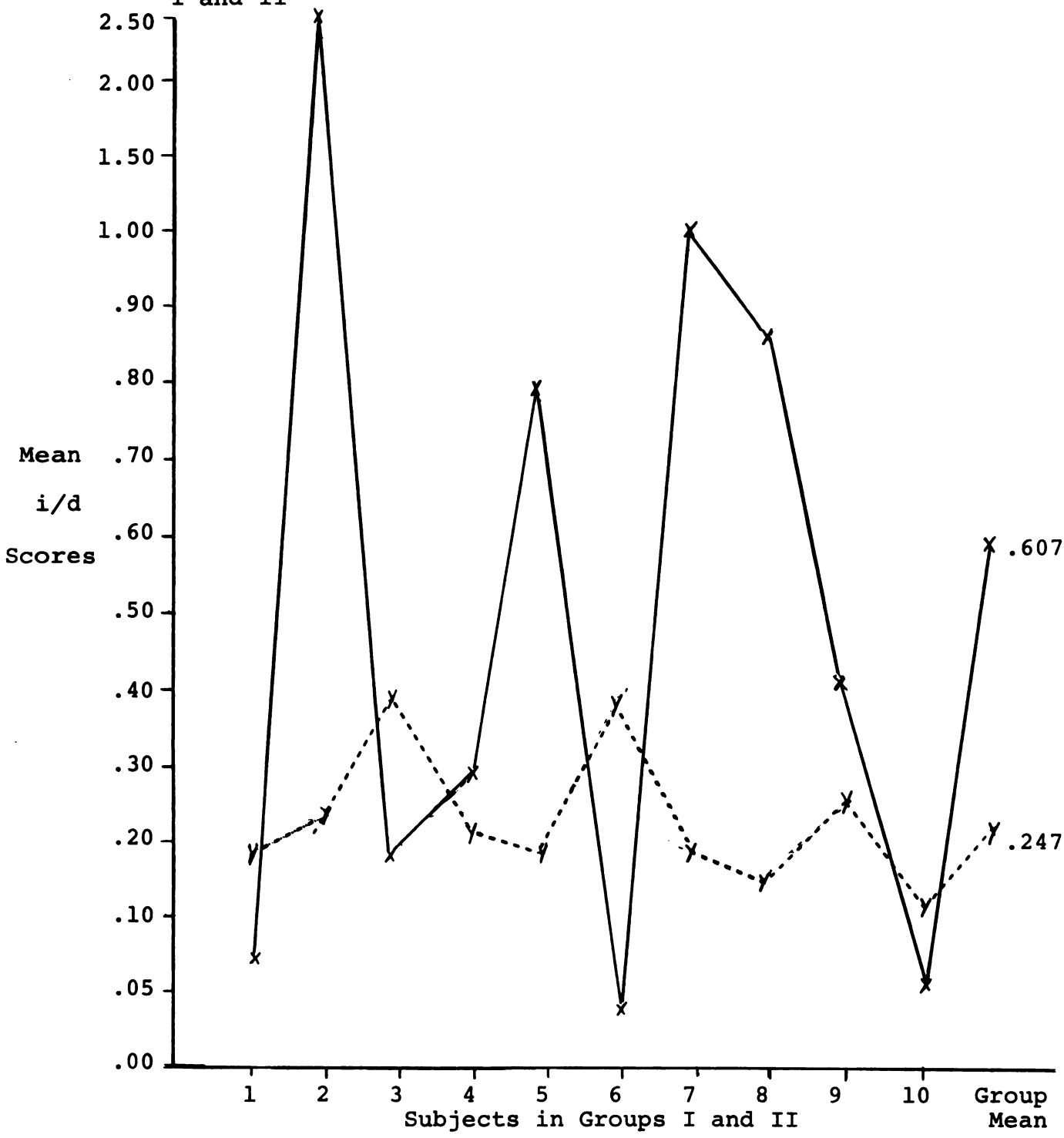
Figure 4.5. Graph of Subjects' Mean I/D Scores in Groups I[a] and II[b]



[a]Group I = x

[b]Group II = y

Figure 4.6. Graph of Subjects' Mean i/d scores in Groups I[a] and II[b]



[a]Group I = x

[b]Group II = y

Additional Comparison

The percentage of teacher talk was also analyzed from the information collected by the student observers. The mean percent of teacher talk for each teacher in all three groups is presented in Table 4.2.

Table 4.2. Mean % of teacher talk by groups

Teacher	I[a]	II[b]	III[c]
1	75.6	76.2	74.6
2	44.7	72.5	51.4
3	75.2	75.9	51.6
4	69.7	72.1	71.4
5	64.9	64.1	71.2
6	89	41.4	58.4
7	51.1	66.9	64
8	60	84.5	78
9	41.8	44	83
10	85.7	58.2	68.8
Mean	65.77	65.58	67.24

[a]Experimental group I, received written student feedback.

[b]Experimental group II, received verbal student feedback.

[c]Control group.

In studies conducted by John Withall[1] it was found that the teacher verbal behavior dominated the classroom approximately 66-2/3%. The mean teacher talk of the three groups in this study was 66.19%, which reinforces Withall's findings.

The results of applying a one-way analysis of variance to the percentage of teacher talk indicated that there was no measured significant difference in the mean percent of teacher talk of the three groups in the study. An F value greater than 3.37 is required to show significance at the .05 level. The F value in this calculation was 1.373. All three groups were equally verbally teacher dominated. The summary of the data is presented in Table 4.3.

Table 4.3. One way analysis of variance summary data for % of teacher talk.

Source	SS	DF	MS	F	F required at .05 level
Treatment	3,067,943.3	2	153,397.465	1.373	3.37
Error	-3,015,585.4	27	111,688.348		
Total	52,363.9	29			

[1]John Withall, "Evaluation of Classroom Climate," Childhood Education, XLV (March, 1969), p. 1405.

Answering the Core Questions

In Chapter I, there were two core questions that should be answerable concluding the collection and analysis of the data obtained by the testing of the specified hypotheses. The basic questions are:

1. In view of the data, has a four-week program of pupil-teacher feedback aided in increasing a teacher's flexibility in classroom interaction with students? This feedback consisted of eight independent written forms or four one-hour periods of face-to-face feedback.
2. In view of the data, is there a significant difference in teacher flexibility due to the type of feedback a teacher receives?
   a. Eight independent written forms (Appendix A).
   b. Four one-hour periods of face-to-face verbal feedback.

Data resulting from the analyses of the three major hypotheses of this study reveal that:

1. The teachers receiving written pupil feedback did not have a significantly higher mean I/D score than the mean I/D score of the control group. (H_1, $^{s}H_1$)
2. The teachers receiving written pupil feedback did not have a higher mean i/d score than the mean i/d score of the control group. (H_1, $^{s}H_2$)

3. Teacher flexibility scores of those receiving written pupil feedback were not significantly higher at the .05 level than those of the teachers who did not receive any organized feedback from students. (H_{o_1})
4. The teachers receiving verbal face-to-face pupil feedback did not have a significantly higher mean I/D score than did the teachers of the control group. (H_2, $^{s}H_1$)
5. The mean i/d score of the teachers receiving verbal face-to-face feedback was not significantly higher than the teachers of the control group. (H_2, $^{s}H_2$)
6. The mean teacher flexibility scores of those receiving face-to-face verbal feedback were not significantly higher at the .05 level of significance than those of the teachers who dod not receive any organized feedback from students. (H_{o_2})
7. The mean I/D score of the teachers who received verbal face-to-face pupil-teacher feedback was not significantly higher than the mean I/D score of those teachers who received written feedback from the students. ($_3$, $^{s}H_1$)
8. The mean i/d score of the teachers who received verbal face-to-face pupil-teacher feedback was not significantly higher than the mean i/d score of those teachers who received written feedback from the students. (H_3, $^{s}H_2$)

9. There was no significant difference in teacher flexibility between teachers who received verbal face-to-face feedback from students and those who received written student feedback at the .05 level. (H_{o_3})

Constructive feedback from student to teacher should increase the effectiveness of the teacher's interaction with students. Two forms of feedback were given to teachers in this study with the intention of increasing teacher flexibility, or the way they influence the students. This would tend to give students a greater freedom of action, making a student less dependent on the teacher.[1]

Based on the findings of this study, it is the conclusion of the author that the four week program of:

a. eight independent written feedback forms

b. four-one hour periods of face-to-face feedback was not effective, as perceived and measured by the consumers (student observers), in raising teacher flexibility.

There was no significant difference measured in teacher flexibility between the verbal and written feedback groups when compared to the control group. Studies conducted

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[1]Ned Flanders, Teacher Influence, Pupil Attitudes and Achievement, U.S. Department of Health, Education and Welfare OE-25040 Cooperative Research Monograph No. 12, (Washington: U.S. Government Printing Office, 1965), p. 110.

by Bryan,[1] in 1959, and Gage,[2] et al., in 1960, used written feedback forms to be answered by students. The results of the studies indicated that the teachers changed toward the direction of the students' perception of their ideal teacher or toward the improvements the students suggested. In both studies the subjects were volunteer teachers. The feedback forms used in Bryan's and Gage's, et al., studies were among the seven selected for this study and may be found in Appendix A.

When this study was first considered two staffs of large high schools were approached in seeking volunteers. In both schools the administration supported the study and would have released the instructors from classes to be involved in the feedback sessions and in the discussions about the written forms. A total of less than 20 volunteered from the two schools. It appeared, after questioning some staff members, that this type of feedback was too threatening.

Staff members from the high school in which the study was conducted did not volunteer for the project. It was presented as a form of inservice training, of which different

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[1]Roy C. Bryan, Pupil Ratings of Secondary School Teachers, (New York: Bureau of Publications, Teachers College, Columbia University, 1937).

[2]N. L. Gage, Philip J. Runkle and B. B. Chatterjee, Equilibrium Theory and Behavior Change: An Experiment in Feedback from Pupils to Teachers, (Champagne: Bureau of Educational Research, College of Education, University of Illinois, 1960).

teachers would be involved in various phases of instructional improvement.

The staff members felt very apprehensive. Some felt ill before their first face-to-face feedback session with the pupils, even though the teacher had selected the students to be involved in the feedback program. Each teacher of this group was involved with other teachers in a simulated session of the type of feedback one might expect, how one could give feedback, and how one may receive feedback. The format for the teachers' session as well as student sessions was based upon the "Constructive Use of Feedback" found in Appendix E.

Some members in group I, receiving the written feedback, felt that someone else would certainly find out the information placed in the student response items. The teacher passed these forms out to two classes and collected them himself. He would tally the responses and would have the option of discussing this with his fellow group members, the author, or not discussing it with anyone.

It appears that the population of this study was different than the studies that have been conducted seeking similar changes. Unlike the studies of Bryan,[1] Gage,[2]

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[1]Bryan, Pupil Ratings of Secondary School Teachers.

[2]Gage, Runkle, and Chatterjee, Equilibrium Theory and Behavior Change: An Experiment in Feedback from Pupils to Teachers.

Ishler,[1] Medley,[2] and Ryan,[3] the subjects of this study were not volunteers, but were established teachers. This suggests that the subjects were more typical of the teaching population.

In 1969 Kendrick McCall conducted a study at Rutgers University on teacher change through the use of verbal feedback. Professional members of a staff used a modification of Flanders Interaction Analysis to collect data on the teachers. The observers gave verbal feedback to one group of teachers on their behavior in the classroom.

McCall found that a treatment of two verbal feedback sessions caused a significant change as measured by percentage of teacher talk.

The four pupil-teacher feedback treatments in this study did not produce similar results. The reasons that this change was not measured may be accounted for by the following:

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[1]Richard Eves Ishler, "An Experimental Study Using Withall's Social-Emotional Climate Index to Determine the Effectiveness of Feedback as a Means of Changing Teachers' Verbal Behavior," (unpublished Ph.D Dissertation, Pennsylvania State University, 1965).

[2]Donald M. Medley, "Experiences with the OScAR Techniques," Journal of Teachers Education, XIV (September, 1963).

[3]Kevin Albert Ryan, "The Use of Students' Written Feedback in Changing Behavior of Beginning Secondary Teachers," (unpublished Ph.D. Dissertation, Stanford University, 1966).

1. Teachers may not have accepted the pupils' feedback involved in this study as they did the professionals in McCall's study.
2. The feedback of the professional person may have been directed toward the desired changes that were to be measured.
3. In both the Bryan and Gage studies the same written feedback form was used at the beginning and at the end of the study. The information from the first was compared to that of the second to see if the teachers moved toward the directions the students desired or saw as a better teacher. The students may have perceived the teacher behavior change because of the students' desire for the change, not from an actual behavior change.

Summary

Three hypotheses were statistically analyzed by the use of a three-way analysis of variance. The three hypotheses were divided into two subhypotheses each, testing teacher flexibility change (I/D and i/d scores) due to the feedback treatments.

Findings:

1. Teachers who had received student feedback from eight written forms, over a four week time span, were compared to teachers who received no formal

feedback. There was no significant difference measured in mean I/D or i/d scores at the .05 level.

2. A comparison was made between teachers who had received feedback in four one-hour face-to-face verbal sessions with the control group of teachers who did not receive any formally organized feedback from students. There was no significant different measured at the .05 level for either mean I/D or i/d scores.
3. Type of feedback was also compared. Teachers who received the verbal feedback were compared to those receiving written feedback for teacher flexibility change. There was no significant difference measured between the mean I/D or i/d scores of either feedback group at the .05 level.
4. The two feedback treatments did not create a significant difference in the mean percentage of teacher talk among the three groups. All three groups, experimental groups I and II and the control group, dominated the verbal communication in the room verbally about 66% of time.

Studies mentioned in the review of literature were conducted with student teachers and volunteer teachers. The subjects of this study were all teachers of one high school. The study was conducted as an in-service program

of which all staff members teaching non-laboratory classes were participants. Populations selected for the studies in the review of literature make it difficult to compare studies.

Data presented in this chapter form the basis for answering the two core questions in the negative form. A four-week program of feedback consisting of:

a. 8 independent written student feedback forms, or

b. four one-hour periods of face-to-face feedback with six students, is not sufficient to cause a measurable increase in teacher flexibility. The results also show that there was not a significant difference between the types of feedback that the teachers received.

CHAPTER V

Summary

It was the purpose of this study to determine if a pupil-teacher feedback system significantly increased secondary teachers' flexibility. The study used a posttest-only control group design. Ten weeks after the treatment the ten members of the control group and the twenty members of the experimental groups were observed five different times in their classrooms by high school students trained to use Flanders Interaction Analysis. The students tallied the classroom interaction (verbal behaviors). This tally was placed in 10 X 10 matrices for analysis. From these matrices teachers' flexibility (I/D and i/d scores) was calculated.

The study was designed to determine whether or not a four-week program of written or verbal pupil-teacher feedback aids in increasing teacher flexibility in the classroom interaction with students. It was also designed to determine if there was a significant difference between the impact of verbal feedback as compared to that of written feedback on teacher flexibility.

Within the parameters of this study, the following conclusions are presented:

1. A four-week program of eight written feedback forms was insufficient to cause a measurable increase in teacher flexibility scores.
2. Four verbal feedback sessions, designed to inform teachers how their behavior affected the people in the classroom -- what turns students on, what turns them off, what causes a desire for students to go beyond the classroom in discussion or research -- was found to be insufficient to cause a measurable increase in teacher flexibility scores at the .05 level of significance.
3. There was no significant difference in mean teacher flexibility scores between the teachers who received verbal feedback compared to those who had received written feedback.
4. The mean percent of teacher talk was approximately the same for each group, 65 - 68%.

Based upon the findings of this study it is the conclusion of the author that the four-week verbal and written feedback program used was not effective in bringing about measurable teacher flexibility change when measured ten weeks after the program was completed. This measurement was made by the consumers of the teachers' behavior, the students of the school used in this study, who were trained to use the Flanders Interaction Analysis.

Implications

The following implications are a direct result of the findings of this study and as a result of working as the administrative head of the high school and with all the people involved, experimental, control, students giving verbal feedback, and the students trained to use the Flanders Interaction Analysis.

1. Students can be used effectively in an inservice program as a source of feedback and for making recommendations for individuals to become more effective in their communications.
2. Students can be trained to use an Interaction Analysis instrument and can be an aid to the administration and teaching staff in an inservice program, designed to improve the learning environment.
3. The eight written feedback forms should be spread over a period of at least eight weeks. It was found that the amount of data an instructor collected from one form was enough to work with in one week's time. The teachers in the group receiving the written feedback suggested these forms be used every other week so that they had some time to react to the feedback.

4. The teachers used the feedback forms within two days after they were distributed to them. Teacher selected various periods to ask students for this feedback. Some students filled out two or three copies of the same form for different teachers. The members of group I felt that this feedback was not always beneficial to them. This problem may be prevented by spreading the forms out over a longer period of time.
5. Most of the teachers receiving student feedback were quite apprehensive during the first session. Some rejected anything that they felt was stated negatively. A few who received verbal feedback were so nervous that they heard very little of what was said by the students. The students in these cases gave the teacher a great deal of verbal support.
6. In a follow-up meeting, after the verbal feedback treatment was completed, the students expressed that the following changes took place within themselves:
   a. A greater respect was felt for the teacher as a person; the teacher being the one they were involved with in the verbal feedback. The students felt more comfortable asking questions in class or talking with the teacher outside of the classroom setting.

b. They learned how to ask more specific questions.

c. All felt they understood the difference between helpful and harmful feedback.

d. All students felt they were better listeners. Some felt they were becoming discriminate listeners.

e. A relationship was established in which some of the teachers continued to use the students as a feedback source. This was confirmed by the teachers. The teachers felt that they had a high trust in the students, and these particular feedback students understood what he, the teacher, was trying to do.

7. A rapport was established by some of the teachers involved in the verbal feedback with those students, whichencouraged the seeking of future feedback. The teachers felt when they asked for the feedback, it was very direct, specific and helpful.

Questions for Further Study

1. Would an increase in teacher flexibility occur if a longer period of time were allocated for the feedback program?
2. There was not a measurement of significant difference in teacher flexibility ten weeks after the treatment was completed. Would measurements closer

to the completion of the feedback treatments provide a significant difference in teacher flexibility?

3. Is there a significant difference in teacher flexibility between volunteer teachers and non-volunteer teachers before any treatment?
4. Is there a significant difference in teacher flexibility based upon the discipline one is trained to teach? Age or the number of years a person has taught?
5. Does feedback from a superior (person in a higher labeled position--supervising teacher, department chairman, principal, superintendent, college instructor) cause greater behavior change in a teacher's performance than the feedback of students in the classroom?
6. Schools are organized to meet the needs of what group in our society? Are the needs of the young adults met in today's schools?
7. What measurable attitude changes take place with students who are involved with groups giving face-to-face verbal feedback with teachers?
8. What type of program would reduce the fear some teachers possess of interacting in small groups dealing with self?

BIBLIOGRAPHY

BIBLIOGRAPHY

Books

Amidon, Edmund J. and Flanders, Ned A. The Role of the Teacher in the Classroom: A Manual for Understanding and Improving Teachers' Classroom Behavior. Minneapolis, Minnesota: Amidon and Associates, Inc., 1963.

Bellack, Arno A. Theory and Research in Teaching. New York: Bureau of Publications, Teachers College, Columbia University, 1963.

Bennis, Warren G. Changing Organizations. New York: McGraw-Hill, Inc., 1966.

Bowers, H. D. and Soar, R. S. Evaluation of Laboratory Human Relations for Classroom Teachers. Studies of Human Relations in the Teaching-Learning Process: V Final Report. U.S. Office of Education, Contract No. 8143. Columbia: University of Southern California, 1961.

Bradford, Leland, Gobb, Jack R. and Benne, Kenneth D. T-Group, Theory and Laboratory Method: Innovation in Re-education. New York: John Wiley and Sons, Inc., 1964.

Bruner, Jerome S. Toward A Theory of Instruction. Cambridge, Massachusetts: Harvard University Press, 1966.

Bryan, Roy C. Pupil Ratings of Secondary School Teachers. New York: Teachers College, Contributions to Education, 1937.

Bush, Robert N. The Teacher-Pupil Relationship. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1954.

Combs, Arthur W. Perceiving, Behaving, Becoming. 1962 Yearbook of the Association for Supervision and Curriculum Development. Washington, D.C.: National Education Association, 1962.

Cox, D. R. Planning of Experiments. New York: John Wiley and Sons, Inc., 1966.

Doll, Ronald C. (ed.) Individualizing Instruction. 1964 Yearbook of the Association for Supervision and Curriculum Development. Washington, D.C.: National Education Association, 1964.

Durham, Lewis E., Gibb, Jack R. and Knowles, Eric S. Explorations in Human Relations Training and Research. Washington, D.C.: National Training Laboratories, 1967.

Flanders, Ned A. Helping Teachers Change Their Behavior. (U.S. Office of Education under Title VII and National Defense Education Association). Ann Arbor, Michigan: University of Michigan, 1965.

Flanders, Ned. Interaction Analysis in the Classroom: A Manual for Observers. Minneapolis: University of Minnesota, 1964.

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

Fox, Robert, Luszki, Margaret Barron and Schmuck, Richard. Diagnosing Classroom Learning Environments. (Teacher Resource Booklets on Classroom Social Relations and Learning.) Chicago: Science Research Associates, Inc., 1966.

Gage, N. L. (ed.) Handbook of Research on Teaching. Chicago: Rand McNally and Company, 1963.

Gage, N. L., Runkel, Philip J. and Chatterjee, B. B. Equilibrium Theory and Behavior Change: An Experiment in Feedback from Pupils to Teachers. Champagne: Bureau of Educational Research, College of Education, University of Illinois, 1960.

Gardner, John. No Easy Victories. New York: Harper and Row, 1968.

Gilchrist, Robert S. Creating A Good Environment for Learning. 1954 Yearbook of the Association for Supervision and Curriculum Development. Washington, D.C.: National Education Association, 1954.

Goodman, Paul. Compulsary Mis-education. New York: Random House, 1962.

Halpin, Andrew. Theory and Research in Administration. New York: The MacMillan Company, 1966.

Honigman, Fred K. Multidimensional Analysis of Classroom Interaction (MACI). Villanova, Pennsylvania: Villanova University Press, 1967.

Jersild, Arthur T. When Teachers Face Themselves. New York: Teachers College Press, Teachers College, Columbia University, 1955.

Kerlinger, Fred N. Foundations of Behavioral Research. New York: Holt, Rinehart and Winston, Inc., 1966.

Mager, Robert F. Developing Attitude Toward Learning. Palo Alto, California: Fearson Publishers, 1968.

Mehrens, William and Ebel, Robert. Principles and Psychological Measurement: A Book of Selected Readings. Chicago: Rand McNally and Company, 1967.

Pettigrew, Thomas F. Racial Isolation in the Public Schools. A report of the U.S. Commission on Civil Rights. Washington, D.C.: U.S. Government Printing Office, 1967.

Postman, Neil and Weingartner, Charles. Teaching as a Subversive Activity. New York: Delacorte Press, 1969.

Rohde, A. R. The Sentence Completion Method: Its Diagnostic and Clinical Application to Mental Disorders. New York: Ronald Press, 1957.

Rotter, J. B. and Rafferty, J. E. Manual: The Rotter Incomplete Sentences Blank. New York: Psychological Corporation, 1950.

Schmuck, Richard, Chesler, Mark and Lippitt, Ronald. Problem Solving to Improve Classroom Learning. Chicago: Science Research Associates, Inc., 1966.

Smith, Henery Clay. Sensitivity to People. New York: McGraw-Hill Book Company, 1966.

Thelen, Herbert A. Education and the Human Quest. New York, Evanston, London: Harper and Row, 1960.

Wilhelms, Fred T. (ed.) Evaluation as Feedback and Guide. Washington, D.C.: National Education Association, 1967.

Winer, B. J. Statistical Principles in Experimental Design. (series in Psychology.) New York: McGraw-Hill Book Company, 1962.

Articles and Periodicals

Amidon, Edmund J. and Simon, Anita. "Teacher-Pupil Interaction," Review of Educational Research, XXXV (1965).

Anderson, K. H. "The Measurement of Domination and of Social Integrative Behavior in Teachers' Contacts with Children," Child Development, X (1939).

Argyris, Chris. "T-Groups for Organizational Effectiveness," Harvard Business Review, XLII (March-April, 1964).

Brookover, Wilbur B. "Person-Person Interaction Between Teachers and Pupils and Teacher Effectiveness," Journal of Educational Research, XXXIV (December, 1940).

Burke, R. L. and Bennis, W. G. "Changes in Perception of Self and Others During Human Relations Training," Human Relations, XIV (1961).

Chamberlin, T. C. "The Method of Multiple Working Hypotheses," Reprint from Science (old series), XV (1890).

Clem, O. H. "What do my Students Think About my Teaching?" School and Society, XXXI (1930).

Cogan, Morris L. "Theory and Design of a Study of Teacher Pupil Interaction," The Harvard Educational Review, XXVI (Fall, 1956).

Cogan, Morris L. "Research on the Behavior of Teachers: A New Phase," Journal of Teacher Education, XIV (September, 1963).

Curtis, D. K. "Pre-service and Inservice's Education of Elementary and Secondary School Teachers," Review of Educational Research, XXVIII (1958).

Dole, A. A. and Fletcher, F.M., Jr. "Some Principles in Construction of Incomplete Sentences," Educational and Psychological Measurement, XV (1955).

Dorris, R. J., Levinson, D. J. and Hanfmann, E. "Authoritarian Personality Studied by a New Variation of the Sentence Completion Technique," Journal of Abnormal Psychology, XLIX (1954).

Flinn, V. "Teacher Rating by Pupils," Education Methods, XI (1932).

Forer, B. R. "A Structured Competition Test," Journal of Projective Techniques, XIV (1950).

Frymier, Jack. "Teaching the Young to Love," Theory Into Practice, VIII, No. 2 (April, 1969).

Gage, N. L. et al. "Teachers' Understanding of Their Pupils and Pupils' Ratings of their Teachers," Psychological Monographs: General and Applied, LXIX, No. 406 (1956).

Gibb, J. R. "A Climate for Learning," Adult Education, IX (Summer, 1958).

Gordan, T. "What is Gained by Group Participation?" Educational Leadership, VII (1950).

Greenhouse, Samuel W. and Seymour, Geisser, "On Methods in the Analysis of Profile Data," Psychometrika, XXIV (June, 1959).

Henderson, Kenneth B. "Research in Teaching Secondary School Mathematics," Handbook of Research on Teaching. Edited by N. L. Gage. Chicago: Rand McNally and Company, 1963.

Horowitz, M. W., Lyons, J. and Perlmutter, H. O. "Induction of Forces in Discussion Groups," Human Relations, IV (1951).

Hough, John B. "Changing the Teacher's Instructional Behavior," Michigan Journal of Secondary Education, VII (Winter, 1966).

Jenkins, D. H. "Feedback and Group Self-evaluation," Journal of Social Issues, IV (1948).

Kimball, B. "The Sentence Completion Technique in a Study of Scholastic Underachievement," Journal of Consulting Psychology, XVI (1952).

Lippitt, Ronald. "The Use of Social Research to Improve Social Practice," American Journal of Orthopsychiatry, XXXV (July, 1965).

McDill, Edward L., Meyers, Edmund D., Jr., and Rigsby, Leo C. Source of Educational Climates in High Schools. Final Report Project No. 1999, Contract OF-3-10-080. Prepared by the U.S. Department of Health, Education and Welfare. Washington, December, 1966.

Medley, Donald M. "Experiences With the OScAR Techniques," Journal of Teachers' Education, XIV (September, 1963).

Miles, M. B. "Human Relations Training: Processes and Outcomes," Journal Counselor Psychology, LXII (1960).

Mitzel, H. and Rabinowitz, W. "Assessing Social-Emotional Climate in the Classroom by Withall's Technique, Psychological Monographs: General and Applied, LXVII, No. 18 (1953).

Morris, B. S. "Education and Human Relations," Journal of Social Issues, III (1947).

Nash, Harvey, "Incomplete Sentence Tests in Personality Research," Educational and Psychological Measurement, XVIII (1958).

Osgood, C. E., and Tannenbaun. "The Principle of Congruity in the Prediction of Attitude Change," Psychological Review, LXII (1955).

Perkins, H. V. "Climate Influenced Group Learning," Journal of Educational Research, XLV (October, 1951).

Perkins, Hugh V. "A Procedure for Assessing the Classroom Behavior of Students and Teachers," American Educational Research Journal, II (1964).

Peterson, O. F. "Leadership and Group Behavior," Leadership in Action, Washington, D.C.: National Training Laboratories, National Education Association, 1961.

Rubin, Irwin. "The Reduction of Prejudice Through Laboratory Training," Journal of Applied Behavioral Science, III Washington, D.C.: National Training Laboratories, (1967).

Savage, Marjorie L. "Pupil Ratings Used in Student Teaching," American Vocational Journal, XXXVII (1962).

Shelton, Landon, "Supervision of Teachers: The Administration's First Responsibility," The Bulletin of the N.A.S.S.P., XLIX, No. 303 (October, 1965).

Skinner, B. F. "Teaching Machines," Science, CXXVIII (1958).

Suehr, John H. "Feedback: The Most Promising Innovation For Secondary Schools," Michigan Journal of Secondary Education, IX, No. 1 (1967).

Symonds, Percival M. "Characteristics of the Effective Teacher Based on Pupil Evaluation," Journal of Experimental Education, XXII (January, 1955).

Thelan, Herbert A. and Withall, John. "Three Frames of Reference: The Description of Climate," Human Relations, II (April, 1949).

Vanderpol, Jeanette A. "Student Opinion Sacred Cow or Booby Trap?" Journal of Teacher Education, X (December, 1959).

Ward, W. D., Rummers, H. H. and Schmalzied, N. T. "The Training of Teacher Personality by Means of Student Ratings," School and Society, LIII (1944).

Wilhelms, Frederick H. "Educational Conditions Essential to Growth in Individuality," N.A.S.S.P. Bulletin, XLVIII, Part I (January-May, 1964).

Wilson, Isabelle. "The Use of a Sentence Completion Test in Differentiating Between Well-Adjusted and Maladjusted Secondary School Pupils," Journal of Consulting Psychology, XIII (1949).

Withall, J. G. "The Development of a Technique for the Measurement of Social-Emotional Climate in Classrooms," Journal of Experimental Education, XVII (1949).

Withall, John. "Evaluation of Classroom Climate," Childhood Education, XLV, No. 7 (March, 1969).

Unpublished Materials

Chesler, Mark A. "Dissent and Disruption in Secondary Schools." Unpublished paper from project "Alternate Responses to School Crises," University of Michigan.

Flanders, Ned A. "Some Relationships Between Teacher Influence Pupil Attitudes and Achievement," Unpublished manuscript for The Education of Teaching, University of Michigan.

Flanders, Ned A. "Teacher Influence in the Classroom: I. Research on Classroom Climate." Unpublished paper, University of Michigan.

Gunnison, John Pierre. "An Experiment to Determine the Effects of Changing Teacher Classroom Behavior Through Training of Student Teachers in the Use of the Flanders Interaction Analysis System," Unpublished Ph.D. Dissertation, Arizona State University, 1968.

McCall, Kendrick Marshall. "Modification of Teacher Behavior and Self-Perception: Effects of Dissenance and Coded Feedback." Unpublished Ph.D. Dissertation, The State University of Rutgers, 1969.

Medley, Donald M. "Measuring Changes in Student Teacher Behavior--A Second Look." Unpublished paper read at the annual meeting of the Association for Student Teaching, Chicago, February 20, 1964.

Parrish, H. Wayne. "A Study of the Effects of In-service Training in Interaction Analysis on the Verbal Behavior of Experienced Teachers." Unpublished Ph.D. Dissertation, University of Oregon, 1968.

Ryan, Kevin Albert. "The Use of Students Written Feedback in Changing Behavior of Beginning Secondary Teachers." Unpublished Ph.D. Dissertation, Stanford University, 1966.

APPENDICES

APPENDIX A-1

STUDENT-OPINION QUESTIONNAIRE

(Form A)

Please answer the following questions honestly and frankly. Do not give your name. To encourage you to be frank, your regular teacher should be absent from the classroom while these questions are being answered. Neither your teacher nor anyone else at your school will ever see your answers.

The person who is temporarily in charge of your class will, during this period, collect all reports and seal them in an envelope addressed to Western Michigan University. Your teacher will receive from the University a summary of the answers by the students in your class. The University will mail this summary to no one except your teacher unless requested to do so by your teacher.

After completing this report, sit quietly or study until all students have completed their reports. There should be no talking.

Underline your answers to questions 1-13. Write your answers to questions 14 and 15.

WHAT IS YOUR OPINION CONCERNING THIS TEACHER'S:

1. KNOWLEDGE OF SUBJECT: Does he have a thorough knowledge and understanding of his teaching field?
   Below Average Average Good Very Good The Very Best

2. CLARITY OF EXPLANATIONS: Are assignments and explanations clear?
   Below Average Average Good Very Good The Very Best

3. FAIRNESS: Is he fair and impartial in his treatment of all students?
   Below Average Average Good Very Good The Very Best

4. CONTROL: Does he keep enough order in the classroom? Do students behave well?
   Below Average Average Good Very Good The Very Best

5. ATTITUDE TOWARD STUDENTS: Is he patient, understanding, considerate, and courteous?
   Below Average Average Good Very Good The Very Best

6. ABILITY TO STIMULATE INTEREST: Is this class interesting and challenging?
   Below Average Average Good Very Good The Very Best

7. ATTITUDE TOWARD SUBJECT: Does he show interest in and enthusiasm for the subject? Does he appear to enjoy teaching this subject?
   Below Average Average Good Very Good The Very Best

8. ATTITUDE TOWARD STUDENT OPINIONS: Are the ideas and opinions of students treated with respect? Are differences of opinion welcomed even when a student disagrees with the teacher?
   Below Average Average Good Very Good The Very Best

9. VARIETY IN TEACHING PROCEDURES: Is much the same procedure used day after day and month after month, or are different and appropriate teaching methods used at different times (student reports, class discussions, small-group discussions, films and other audio-visual aids, demonstrations, debates, field trips, teacher lectures, guest lectures, etc.)?
   Below Average Average Good Very Good The Very Best

10. ENCOURAGEMENT OF STUDENT PARTICIPATION: Do students feel free to raise questions and express opinions? Are students encouraged to take part?

Below Average | Average | Good | Very Good | The Very Best

11. SENSE OF HUMOR: Does he see and share with students amusing happenings and experiences?

Below Average | Average | Good | Very Good | The Very Best

12. PLANNING AND PREPARATION: Are plans well made? Is class time well spent? Is little time wasted?

Below Average | Average | Good | Very Good | The Very Best

13. ASSIGNMENTS: Are assignments (out-of-class, required work) sufficiently challenging without being unreasonably long? Is the weight of assignments reasonable?

Much too light | Too light | Reasonable | Too heavy | Much too heavy

14. Please name two or more things that you especially like about this teacher or course.

15. Please give two or more suggestions for the improvement of this teacher or course.

Prepared by the Student Reaction Center, Western Michigan University, Kalamazoo, Michigan 49001.

APPENDIX A-2

IDEAL TEACHER[a]

This is not a "test."

There are no right or wrong answers.

An answer which tells us what your considered opinion is, is a "correct" answer.

After each statement there are six different answers.

Pick one of these answers and carefully make an "X" in the box in front of the answer.

FIRST,
read the sentence which tells what a "best" or "your ideal" teacher might do.

THEN,
pick one of the six answers.

LIKE THIS:

Goes to movies often.

( ) Very much LIKE my "best" teacher
(X) Somewhat LIKE my "best" teacher
( ) A little bit LIKE my "best" teacher
( ) A little bit UNLIKE my "best" teacher
( ) Somewhat UNLIKE my "best" teacher
( ) Very much UNLIKE my "best" teacher

---

[a]N. L. Gage, Philip J. Runkel, and B. B. Chatterjee, Equilibrium Theory and Behavior Change: An Experiment in Feedback from Pupils to Teachers, (Champagne: College of Education, University of Illinois, 1960).

Suggests to pupils new and helpful ways of studying.

( ) Very much LIKE my "best" teacher
( ) Somewhat LIKE my "best" teacher
( ) A little LIKE my "best" teacher
( ) A little bit UNLIKE my "best" teacher
( ) Somewhat UNLIKE my "best" teacher
( ) Very much UNLIKE my "best" teacher

Shows a pupil how to look up an answer when the pupil can't find it himself.

( ) Very much LIKE my "best" teacher
( ) Somewhat LIKE my "best" teacher
( ) A little LIKE my "best" teacher
( ) A little bit UNLIKE my "best" teacher
( ) Somewhat UNLIKE my "best" teacher
( ) Very much UNLIKE my "best" teacher

Enjoys a funny remark made by a pupil.

( ) Very much LIKE my "best" teacher
( ) Somewhat LIKE my "best" teacher
( ) A little LIKE my "best" teacher
( ) A little bit UNLIKE my "best" teacher
( ) Somewhat UNLIKE my "best" teacher
( ) Very much UNLIKE my "best" teacher

Acts disappointed when a pupil gets something wrong.

( ) Very much LIKE my "best" teacher
( ) Somewhat LIKE my "best" teacher
( ) A little LIKE my "best" teacher
( ) A little bit UNLIKE my "best" teacher
( ) Somewhat UNLIKE my "best" teacher
( ) Very much UNLIKE my "best" teacher

Asks a small group of pupils to study something together.

( ) Very much LIKE my "best" teacher
( ) Somewhat LIKE my "best" teacher
( ) A little LIKE my "best" teacher
( ) A little bit UNLIKE my "best" teacher
( ) Somewhat UNLIKE my "best" teacher
( ) Very much UNLIKE my "best" teacher

Asks the pupils what they'd like to study in tomorrow's lesson

( ) Very much LIKE my "best" teacher
( ) Somewhat LIKE my "best" teacher
( ) A little LIKE my "best" teacher
( ) A little bit UNLIKE my "best" teacher
( ) Somewhat UNLIKE my "best" teacher
( ) Very much UNLIKE my "best" teacher

Talks with a pupil after school about an idea the pupil has had.	( ) Very much LIKE my "best" teacher ( ) Somewhat LIKE my "best" teacher ( ) A little LIKE my "best" teacher ( ) A little bit UNLIKE my "best" teacher ( ) Somewhat UNLIKE my "best" teacher ( ) Very much UNLIKE my "best" teacher
Praises what a pupil says in class discussion.	( ) Very much LIKE my "best" teacher ( ) Somewhat LIKE my "best" teacher ( ) A little LIKE my "best" teacher ( ) A little bit UNLIKE my "best" teacher ( ) Somewhat UNLIKE my "best" teacher ( ) Very much UNLIKE my "best" teacher
Asks the class what they think of something a pupil has said.	( ) Very much LIKE my "best" teacher ( ) Somewhat LIKE my "best" teacher ( ) A little LIKE my "best" teacher ( ) A little bit UNLIKE my "best" teacher ( ) Somewhat UNLIKE my "best" teacher ( ) Very much UNLIKE my "best" teacher
Explains something by using examples from games and sports.	( ) Very much LIKE my "best" teacher ( ) Somewhat LIKE my "best" teacher ( ) A little LIKE my "best" teacher ( ) A little bit UNLIKE my "best" teacher ( ) Somewhat UNLIKE my "best" teacher ( ) Very much UNLIKE my "best" teacher
Tells pupils about some interesting things to read.	( ) Very much LIKE my "best" teacher ( ) Somewhat LIKE my "best" teacher ( ) A little LIKE my "best" teacher ( ) A little bit UNLIKE my "best" teacher ( ) Somewhat UNLIKE my "best" teacher ( ) Very much UNLIKE my "best" teacher
Explains class material so pupils can understand it.	( ) Very much LIKE my "best" teacher ( ) Somewhat LIKE my "best" teacher ( ) A little LIKE my "best" teacher ( ) A little bit UNLIKE my "best" teacher ( ) Somewhat UNLIKE my "best" teacher ( ) Very much UNLIKE my "best" teacher

APPENDIX A-3

MY TEACHER[a]

Now we would like to have you mark one response for the next statements about the teacher you have for this course.

FIRST,
read the sentence which tells what your teacher might do.

THEN,
pick one of the six answers.

LIKE THIS:

Goes to movies often

( ) Very much LIKE my teacher
( ) Somewhat LIKE my teacher
(X) A little bit LIKE my teacher
( ) A little bit UNLIKE my teacher
( ) Somewhat UNLIKE my teacher
( ) Very much UNLIKE my teacher

---

[a]N. L. Gage, Philip J. Runkel, and B. B. Chatterjee, Equilibrium Theory and Behavior Change: An Experiment in Feedback from Pupils to Teachers, (Champagne: College of Education, University of Illinois, 1960).

Suggests to pupils new and helpful ways of studying.

( ) Very much LIKE my teacher
( ) Somewhat LIKE my teacher
( ) A little bit LIKE my teacher
( ) A little bit UNLIKE my teacher
( ) Somewhat UNLIKE my teacher
( ) Very much UNLIKE my teacher

Shows a pupil how to look up an answer when the pupil can't find it himself.

( ) Very much LIKE my teacher
( ) Somewhat LIKE my teacher
( ) A little bit LIKE my teacher
( ) A little bit UNLIKE my teacher
( ) Somewhat UNLIKE my teacher
( ) Very much UNLIKE my teacher

Enjoys a funny remark made by a pupil.

( ) Very much LIKE my teacher
( ) Somewhat LIKE my teacher
( ) A little bit LIKE my teacher
( ) A little bit UNLIKE my teacher
( ) Somewhat UNLIKE my teacher
( ) Very much UNLIKE my teacher

Acts disappointed when a pupil gets something wrong.

( ) Very much LIKE my teacher
( ) Somewhat LIKE my teacher
( ) A little bit LIKE my teacher
( ) A little bit UNLIKE my teacher
( ) Somewhat UNLIKE my teacher
( ) Very much UNLIKE my teacher

Asks a small group of pupils to study something together.

( ) Very much LIKE my teacher
( ) Somewhat LIKE my teacher
( ) A little bit LIKE my teacher
( ) A little bit UNLIKE my teacher
( ) Somewhat UNLIKE my teacher
( ) Very much UNLIKE my teacher

Asks the pupils what they'd like to study in tomorrow's lesson.

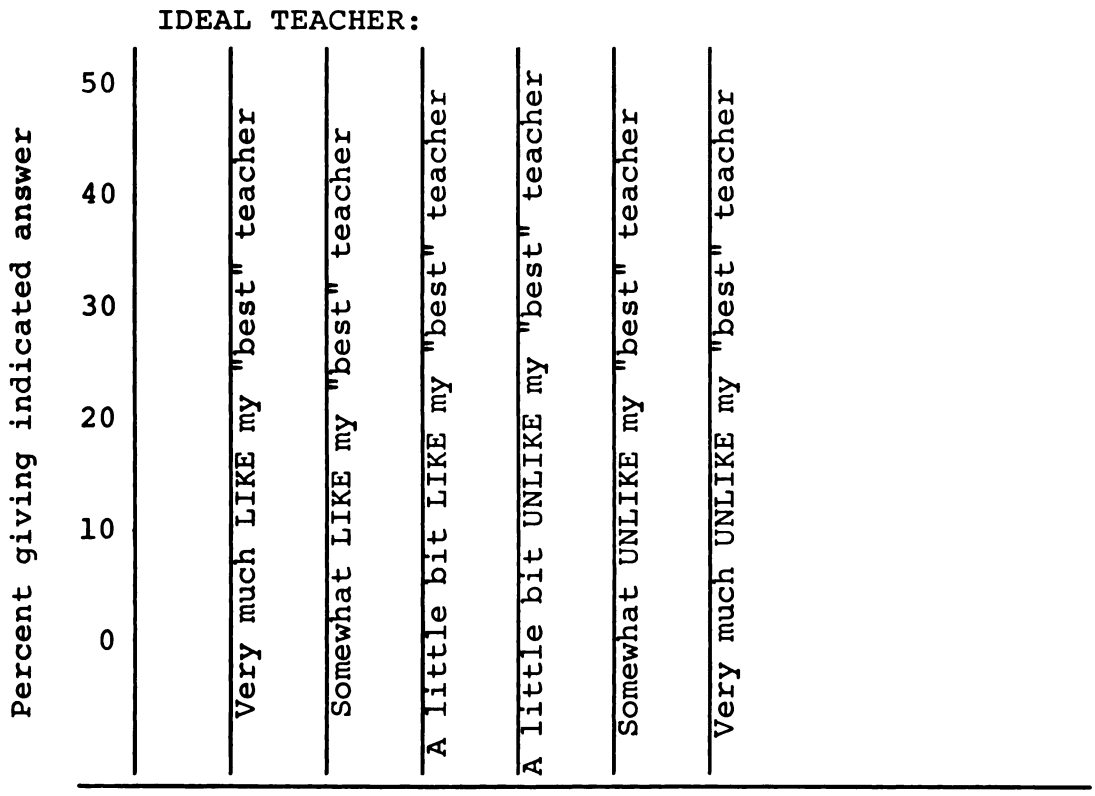
( ) Very much LIKE my teacher
( ) Somewhat LIKE my teacher
( ) A little bit LIKE my teacher
( ) A little bit UNLIKE my teacher
( ) Somewhat UNLIKE my teacher
( ) Very much UNLIKE my teacher

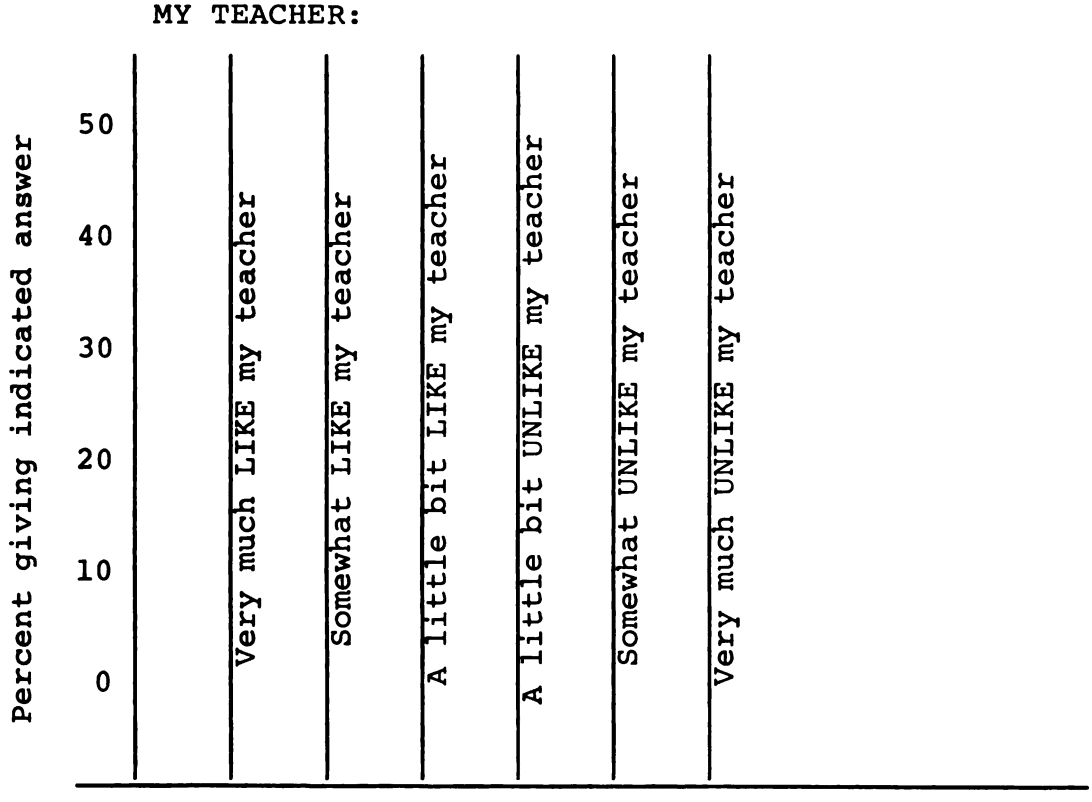
Talks with a pupil after school about an idea the pupil has had.

( ) Very much LIKE my teacher
( ) Somewhat LIKE my teacher
( ) A little bit LIKE my teacher
( ) A little bit UNLIKE my teacher
( ) Somewhat UNLIKE my teacher
( ) Very much UNLIKE my teacher

Praises what a pupil says in class discussion.	( ) Very much LIKE my teacher ( ) Somewhat LIKE my teacher ( ) A little bit LIKE my teacher ( ) A little bit UNLIKE my teacher ( ) Somewhat UNLIKE my teacher ( ) Very much UNLIKE my teacher
Asks the class what they think of something a pupil has said.	( ) Very much LIKE my teacher ( ) Somewhat LIKE my teacher ( ) A little bit LIKE my teacher ( ) A little bit UNLIKE my teacher ( ) Somewhat UNLIKE my teacher ( ) Very much UNLIKE my teacher
Explains something by using examples from games and sports.	( ) Very much LIKE my teacher ( ) Somewhat LIKE my teacher ( ) A little bit LIKE my teacher ( ) A little bit UNLIKE my teacher ( ) Somewhat UNLIKE my teacher ( ) Very much UNLIKE my teacher
Tells pupils about some interesting things to read.	( ) Very much LIKE my teacher ( ) Somewhat LIKE my teacher ( ) A little bit LIKE my teacher ( ) A little bit UNLIKE my teacher ( ) Somewhat UNLIKE my teacher ( ) Very much UNLIKE my teacher
Explains class material so pupils can understand it.	( ) Very much LIKE my teacher ( ) Somewhat LIKE my teacher ( ) A little bit LIKE my teacher ( ) A little bit UNLIKE my teacher ( ) Somewhat UNLIKE my teacher ( ) Very much UNLIKE my teacher

Item: _____


IDEAL TEACHER:
Percent giving indicated answer
50
40
30
20
10
0
Very much LIKE my "best" teacher
Somewhat LIKE my "best" teacher
A little bit LIKE my "best" teacher
A little bit UNLIKE my "best" teacher
Somewhat UNLIKE my "best" teacher
Very much UNLIKE my "best" teacher


MY TEACHER:
Percent giving indicated answer
50
40
30
20
10
0
Very much LIKE my teacher
Somewhat LIKE my teacher
A little bit LIKE my teacher
A little bit UNLIKE my teacher
Somewhat UNLIKE my teacher
Very much UNLIKE my teacher

APPENDIX A-4

POSTCLASS REACTIONS[a]

Here are some questions about what happened in class today. Circle the letter in front of the statement that best tells how you feel about what happened. There are no right or wrong answers.

1. How much do you feel you learned today?

   a. Don't think I learned much
   b. Learned a little bit
   c. Learned quite a lot
   d. Learned a lot today

   Please write why you feel this way. _____

   _____

2. How clear was it why we were doing _____?
   (refer to some specific activity)

   a. Very clear to me
   b. Pretty clear to me
   c. Not so very clear
   d. Not clear at all

   What do you think was the reason we did what we did?

   _____

3. How often did you feel lost during this class period?

   a. Lost most of the time
   b. Lost quite a few times
   c. Lost a couple of times
   d. Not lost at all

   What made you feel lost? _____

   _____

[a]Robert Fox, Margaret Barron Luszki, and Richard Schmuck, Diagnosing Classroom Learning Environments; Teacher Resource Booklets on Classroom Social Relations and Learning, (Chicago: Science Research Associates, Inc., 1966), pp. 17-19.

4. How often did you feel you wanted some extra help during this class period today?

   a. Wanted help quite a few times
   b. Wanted help several times
   c. Wanted a little help once or twice
   d. Wanted no help

   What kind of help did you want? _____

   _____

5. How often did you see somebody else needing help during our class period today?

   a. Saw somebody needing help a lot
   b. Saw somebody needing help quite a few times
   c. Saw somebody needing help a few times
   d. Saw nobody needing help

   How could they be helped? _____

   _____

6. How do you feel about your participation in the discussion this last period?

   a. Not satisfied at all
   b. Not very satisfied
   c. Fairly satisfied
   d. Very satisfied

   Why do you feel this way? _____

   _____

7. How do you feel about what the teacher did in this last class period?

   a. Very satisfied
   b. Pretty well satisfied
   c. Only a little satisfied
   d. Not satisfied

   What makes you feel this way? _____

   _____

APPENDIX A-5

PUPIL PERCEPTIONS OF A CLASS PERIOD[a]

Think about the last hour of class. About how much time would you say was spent in each of the following activities? Draw a circle around the answer you think best tells how much time was spent. There are no right or wrong answers.

	How much time? (Circle One)			
1. The teacher talking to the whole class--telling, answering, or asking something.	a lot	some	a little	none
2. The teacher talking to individual pupils--telling, answering, or asking something.	a lot	some	a little	none
3. Pupils talking to the teacher--telling, answering, or asking something.	a lot	some	a little	none

Now think about what you yourself did during the last class hour. Write in the number you think is right. Make the best guess you can.

4. My teacher told or asked me things or answered my question _____ times.

5. I told or asked my teacher things or answered his questions _____ times.

6. I told or asked other pupils things or answered his questions _____ times.

7. During the last class hour, my teacher told or asked me things or answered my questions: (Check one)

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[a]Robert Fox, Margaret Barron Luszki, and Richard Schmuck, Diagnosing Classroom Learning Environments; Teacher Resource Booklets on Classroom Social Relations and Learning, (Chicago: Science Research Associates, Inc., 1966), pp. 52-53.

a. _____ much more than most other pupils

b. _____ a little more than most other pupils

c. _____ a little less than most other pupils

d. _____ much less than most other pupils

8. I volunteered to say something or do things during the class hour

a. _____ much more than most other pupils

b. _____ a little more than most other pupils

Check One

c. _____ a little less than most other pupils

d. _____ much less than most other pupils

9. When my teacher told or asked me something, it was

a. _____ only about my work

b. _____ mostly about my work, but a little about my behavior

Check One

c. _____ mostly about my behavior, but a little about my work

d. _____ only about my behavior

10. When my teacher told or asked me something, he was

a. _____ very pleased

b. _____ satisfied

Check One

c. _____ somewhat dissatisfied

d. _____ quite dissatisfied

APPENDIX A-6

CLUES ABOUT CLASSROOM LIFE[a]

PLEASE DO NOT WRITE YOUR NAME ON THIS PAPER

So that members of a class and their teacher may get ideas about how to make life more interesting and important for everybody in the class, each person needs to contribute his or her ideas of what needs to be improved. What things happen that shouldn't happen? What ought to happen but doesn't? Try to imagine you are an investigator or scientist looking for clues to a "good day" and a "bad day" in your class. Jot down what you might look for or might see to answer these questions. There are no right or wrong answers.

What are some clues to a good day in our class? What things happen that are signs of a good day?

1. _____

2. _____

3. _____

4. _____

5. _____

What are some clues to a bad day in our class? What things happen that are clues that class is not going the way it should or that you would like it to?

1. _____

2. _____

3. _____

---

[a]Robert Fox, Margaret Barron Luszki, and Richard Schmuck, Diagnosing Classroom Learning Environments; Teacher Resource Booklets on Classroom Social Relations and Learning. (Chicago: Science Research Associates, Inc., 1966), pp. 15-16.

4. _____

5. _____

What are some things that should happen a lot more than they do to make it a better class for learning and having fun?

1. _____

2. _____

3. _____

4. _____

5. _____

APPENDIX A-7

MY TEACHER[a]

Pretend that you could have your teacher change in some way. For each number, check the box that best tells how you would like your teacher to act in this class. There are no right or wrong answers.

	Much more than he does now	A little more than he does now	The same as he does now	A little less than he does now	Much less than he does now
1. Help with work					
2. Yell at us					
3. Make sure work is done					
4. Ask us to decide about how we will work					
5. Smile and laugh					
6. Make us behave					
7. Trust us on our own					

[a]Robert Fox, Margaret Barron Luszki, and Richard Schmuck, Diagnosing Classroom Learning Environments; Teacher Resource Booklets on Classroom Social Relations and Learning. (Chicago: Science Research Associates, Inc., 1966), pp. 15-16.

	Much more than he does now	A little more than he does now	The same as he does now	A little less than he does now	Much less than he does now
8. Make us work hard					
9. Show that he understands how we feel					

I would also recommend that my teacher _____

_____

_____

APPENDIX B

VERBAL CATEGORIES OF FLANDERS INTERACTION ANALYSIS

Indirect Teacher Behavior

Category 1, Acceptance of Feeling. The teacher accepts feelings when he says he understands how the children feel, that they have the right to have these feelings, and that he will not punish the children for their feelings. These kinds of statements often communicate to children both acceptance and clarification of the feeling.

Also included in this category are statements that recall past feeling, refer to enjoyable or uncomfortable feelings that are present, or predict happy or sad events that will occur in the future.

In our society people often react to expressions of negative feelings by offering negative feelings in return. Acceptance of these emotions in the classroom is quite rare; probably because teachers find it difficult to accept negative emotional behavior. However, it may be just as difficult for them to accept positive feelings. Feelings expressed by students may also be ignored by the teacher if he considers the classroom to be a place where people are concerned primarily with ideas rather than feelings.

Category 2, Praise or Encouragement. Included in this category are jokes that release tension, but not those that threaten students or are made at the expense of individual students. Often praise is a single word: "good," "fine," or "right." Sometimes the teacher simply says, "I like what you are doing." Encouragement is slightly different and includes statements such as, "Continue," "Go ahead with what you are saying." "Uh huh; go on; tell us more about your idea."

Category 3, Accepting Ideas. This category is quite similar to Category 1; however, it includes only acceptance of student ideas, not acceptance of expressed emotion. When a student makes a suggestion, the teacher may paraphrase the student's statement, restate the idea more simply, or summarize what the student has said. The teacher may also say, "Well, that's an interesting point of view. I see what you mean." Statements belonging in Category 3 are particularly difficult to recognize; often the teacher will shift from using the student's idea to stating the teacher's own idea.

Statements belonging in Category 3 can be identified by asking the question, "Is the idea that the teacher is now stating the student's or is it the teacher's?" If it is the student's idea, then this category is used; if it is the teacher's, another category must be employed.

Category 4, Asking questions. This category includes only questions which the teacher expects an answer from the pupils. If a teacher asks a question and then follows it immediately with a statement of opinion, or if he begins lecturing, obviously the question was not meant to be answered. A rhetorical question is not categorized as a question. An example of another kind of question that should not be classified in Category 4 is the following: "What in the world do you think you are doing out of your seat, John?" With proper intonation the question is designed to get John back in his seat; if such is the case, it must be categorized as criticism of the student's behavior (Category 7).

Questions that are meant to be answered are of several kinds. There are questions that are direct in the sense that there is a right and wrong answer. The question, "What are 2 and 2?" is a question that limits the freedom of the student to some extent. Although he can refuse to answer, give the wrong answer, or make a statement of another kind, in general, this kind of question focuses the student's answer more than does a question such as, "What do you think we ought to do now?" Questions, then, can be either narrow and restrict the student in his answer, or they can be very broad and give the student a great deal of freedom in answering. All questions, however broad or narrow, which require answers and are not commands or criticism, fall into Category 4.

Direct Teacher Behavior

Category 5, Lecture. Lecture is the form of verbal interaction that is used to give information, facts, opinions, or ideas to children. The presentation of material may be used to introduce, review, or focus the attention of the class on an important topic. Usually information in the form of lecture is given in fairly extended time periods, but it may be interspersed with children's comments, questions, and encouraging praise.

Whenever the teacher is explaining, discussing, giving opinion, or giving facts or information, Category 5 is used. Rhetorical questions are also included in this category. Category 5 is the one most frequently used in classroom observation.

Category 6, Giving Directions. The decision about whether or not to classify the statement as a direction or command must be based on the degree of freedom that the student has in response to teacher direction. When the teacher says, "Will all of you stand up and stretch?" he is obviously giving a direction. If he says, "John, go to the board and write your name," he is giving a direction or command. When he says, "John, I want you to tell me what you have done with your reader," he is still giving a direction.

Category 7, Criticizing or Justifying Authority. A statement of criticism is one that is designed to change

student behavior from nonacceptable to acceptable. The teacher is saying, in effect, "I don't like what you are doing. Do something else." Another group of statements included in this category are those that might be called statements of defense or self-justification. These statements are particularly difficult to detect when a teacher appears to be explaining a lesson or the reasons for doing a lesson to the class. If the teacher is explaining himself or his authority, defending himself against the student, or justifying himself, the statement falls in this category. Other kinds of statements that fall in this category are those of extreme self-reference or those in which the teacher is constantly asking the children to do something as a special favor to the teacher.

Categories 1 through 4, those of indirect teacher influence, and Categories 5 through 7, those of direct teacher influence, have been described. They are all categories of teacher talk. Whenever the teacher is talking, the statements must be categorized in one of the first seven categories. If the observer decides that with a given statement the teacher is restricting the freedom of children, the statement is tallied in Categories 5, 6, or 7. If, on the other hand, the observer decides that the teacher is expanding freedom of children, the category used is either 1, 2, 3, or 4.

There are three additional categories for use in classroom interaction:

Category 8, Student Talk-Response. This category is used when the teacher has initiated the contact or has solicited student statements, when the student answers a question asked by the teacher, or when he responds verbally to a direction the teacher has given. Anything that the student says that is clearly in response to initiation by the teacher belongs in Category 8.

Category 9, Student Talk-Initiation. In general, if the student raises his hand to make a statement or to ask a question when he has not been prompted to do so by the teacher, the appropriate category is nine.

Distinguishing between Categories 8 and 9 is often difficult. Predicting the general kind of answer that the student will give in response to a question from the teacher is important in making this distinction. If the answer is one that is of a type predicted by the observer (as well as the teacher and class), then the statement comes under Category 8. When in response to a teacher-question the student gives an answer different from that which is expected for that particular question, then the statement is categorized as a nine.

Category 10, Silence or Confusion. This category includes anything else not included in the other categories. Periods of confusion in communication, when it is difficult to determine who is talking, are classified in this category.

A summary of these categories, with brief definitions for use of the observer, follow.

SUMMARY OF CATEGORIES
FOR INTERACTION ANALYSIS

TEACHER	INDIRECT INFLUENCE	1. *ACCEPTS FEELING: accepts and clarifies the feeling tone of the students in a nonthreatening manner. Feelings may be positive or negative. Predicting and recalling feelings are included.
		2. *PRAISES OR ENCOURAGES: praises or encourages student action or behavior. Jokes that release tension, not at the expense of another individual, nodding head or saying "uh huh?" or "go on" are included.
		3. *ACCEPTS OR USES IDEAS OF STUDENT: clarifying, building, or developing ideas or suggestions by a student. As teacher brings more of his own ideas into play, shift to category five.
		4. *ASKS QUESTIONS: asking a question about content or procedure with the intent that a student answer.
TALK	DIRECT INFLUENCE	5. *LECTURES: giving facts or opinions about content or procedure; expressing his own idea; asking rhetorical questions.
		6. *GIVES DIRECTIONS: directions, commands, or orders with which a student is expected to comply.
		7. *CRITICIZES OR JUSTIFIES AUTHORITY: statements intended to change student behavior from non-acceptable to acceptable pattern; bawling someone out; stating why the teacher is doing what he is doing, extreme self-reference.

STUDENT TALK	8. *STUDENT TALK-RESPONSE: talk by students in response to teacher. Teacher initiates the contact or solicits student statement.
	9. *STUDENT TALK-INITIATION: talk by students, which they initiate. If "calling on" student is only to indicate who may talk next, observer must decide whether student wanted to talk. If he did, use this category.
	10. *SILENCE OR CONFUSION: pauses, short periods of silence, and periods of confusion in which communication cannot be understood by the observer.

Procedure for Categorizing Teacher-pupil Interaction

The Flanders system of interaction analysis was originally used as a research tool and continues to serve this function. As such, it is employed by a trained observer in order to collect reliable data regarding classroom behavior as a part of a research project.

As it is described in this manual, the system is meant to be used as an in-service training device for teachers. It may be employed by a teacher either as he observes someone else teach or as he categorizes a tape recording of his own classroom behavior. In either case the method is the same.

Every three seconds the observer writes down the category number of the interaction he has just observed. He records these numbers in sequence in a column. He will write approximately 20 numbers per minute; thus, at the end of a period of time, he will have several long columns of numbers. The observer preserves this sequence of numbers that he has recorded. It is important to keep the tempo as steady as possible, but it is even more crucial to be accurate. He may also wish to write down marginal notes from time to time, which can be used to explain what has been happening in the classroom.

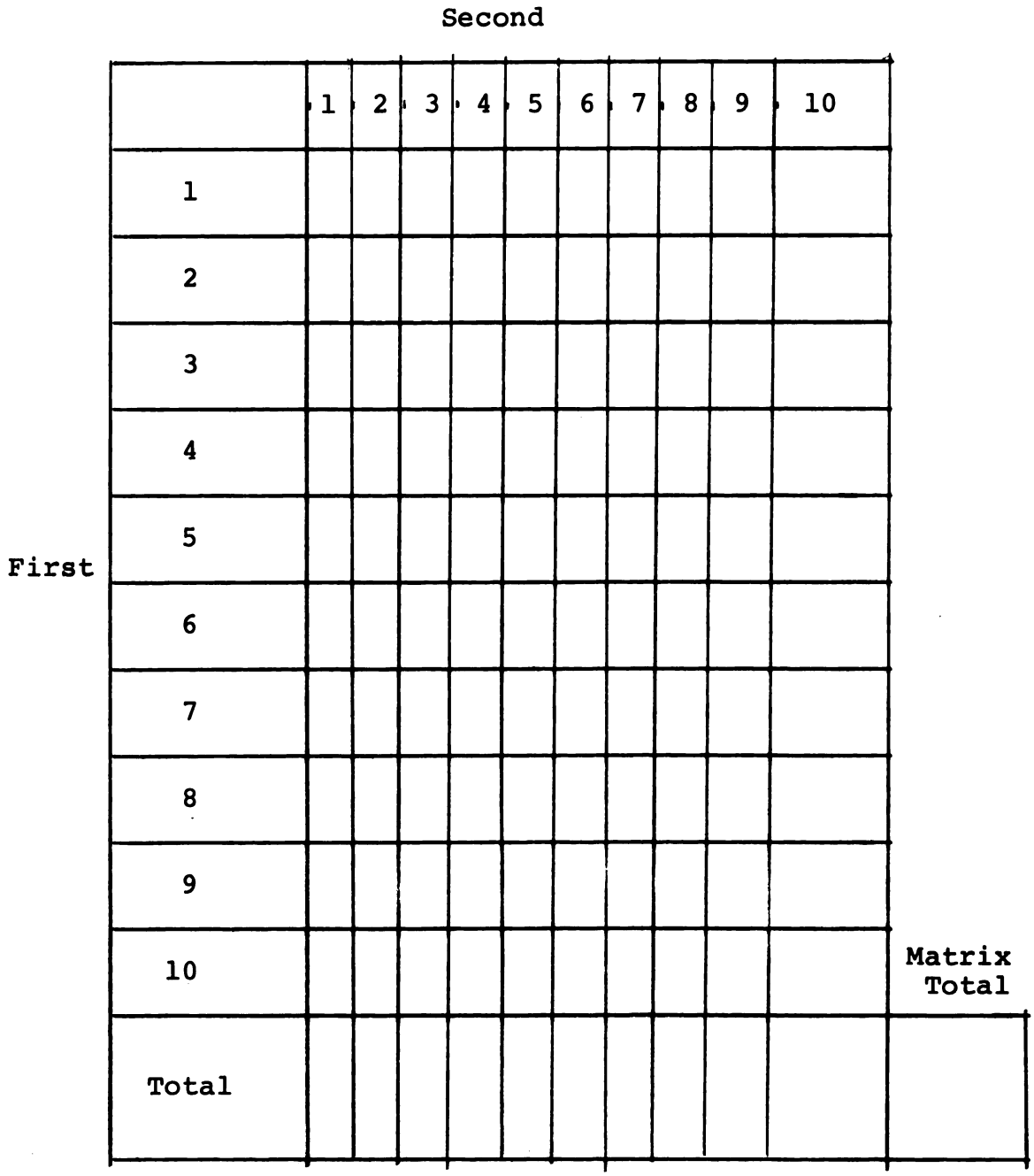
No matter whether he is using a live classroom or a tape recording for his observations, it is best for the

observer to spend 5 to 10 minutes getting oriented to the situation before he actually begins to categorize. He then has a feeling for the total atmosphere in which the teacher and pupils are working. After he has begun to get the feeling of the classroom interaction, he begins to record the interaction.

The observer stops classifying whenever the classroom activity is changed so that observing is inappropriate as, for instance, when there are various groups working around the classroom, or when children are working on workbooks or doing silent reading. He will usually draw a line under the recorded numbers, make a note of the new activity, and resume categorizing when the total class discussion continues. At all times the observer notes the kind of class activity he is observing. The reading group in the elementary school is obviously different from an informal discussion period, a review of subject matter, a period of supervised seat work, teacher-directed discussion, introduction of new material, or evaluation of a unit that has been completed. Such diverse activities may be expected to show different types of teacher-pupil interactions even when guided by the same teacher. A shift to new activity should also be noted.

APPENDIX C

10 X 10 MATRIX



APPENDIX D

FEEDBACK FORM[a]

The ideal teacher is interested in what students have to say about the lesson. With this in mind, please answer the following questions:

1. What % of the class time do you estimate the teacher alone talked today? _____%
2. Did you have something to say about the lesson in class today? Yes No If so, did you get to say it? Yes No If you did not say it, why didn't you: Comment: (please print)
3. If you have something to say about the lesson, do you usually say it? Yes No If not, why not? (please print)
4. When you do speak in class does your teacher think it is important? Yes No How can you tell this? (please print)
5. For what students does your teacher encourage class participation? (1) Almost all equal (2) Just a few special (3)None Circle the best answer.
6. Do you think the teacher is (1) More (2) equally (3) less interested in your ideas or questions than those of others? Circle the best answer. How can you tell this? (please print)

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[a]Kevin Albert Ryan, "The Use of Students Written Feedback in Changing Behavior of Beginning Secondary Teachers" (Unpublished Dissertation, Stanford University, 1966).

APPENDIX E

CONSTRUCTIVE USE OF FEEDBACK

All group members should read their program for five minutes.

The next important goal for your group is to discover the use of constructive feedback in small group interaction. Feedback is reporting to an individual the kind of impressions he is making on you or reporting your reactions to him. Constructive feedback is rarely effectively used in interpersonal communication. Our society puts a great deal of emphasis on the value of honesty. Children are taught in their homes and schools that it is bad to lie about their behavior. Stealing, lying, cheating, and other dishonest acts are denounced in every aspect of life. Yet all of us are guilty of a great deal of dishonesty in interpersonal relationships all of the time. (Since children are often very aware of this it makes the learning of the value of honesty very complex.) We rarely express our honest feelings toward others in home or in school. Often this involves simply avoiding the expression of reactions which we feel would be detrimental to others or ourselves. Often it involves what we call "little white lies" when we tell people something positive or reassuring rather than be direct, honest, or critical.

People often feel threatened by the introduction of feedback exercises. The notion that people will be hurt by criticism is very prevalent. Yet think of how many people you know who have good intentions but irritate, embarrass, or behave in ways which dimish their effectiveness. The range of operating efficiently and productively in many areas is seriously hampered if we never have a chance to become aware of our impact on others. Most of us are quite capable of improving our styles of interpersonal communication and becoming much more effective as people - parents, teachers, whatever, - when we really become aware of our impact on others.

Before going on to an exercise designed to give and receive feedback to others in the group, it is useful to think about destructive versus constructive feedback. Feedback is destructive when it is given only to hurt or to express hostility without any goal of improving the communication between people. It may be also destructive when only derogatory or extremely critical statements are given without any balance of positive evaluation.

Feedback is useful to a person when:

1. It describes what he is doing rather than placing a value on it.

   Example: "When you yell at me it makes me feel like not talking to you anymore."

   Rather than

   "It's awful of you to yell at me."

2. It is specific rather than general.

3. It is directed toward behavior which the receiver can do something about.

4. It is well-timed.

5. It is asked for rather than imposed.

6. It is checked to insure clear communication.

FEEDBACK TASK FOR GROUP

Your group should now divide into triads. Each triad should have paper and pencil and go to separate corners of the room. Each triad should then list all of the members of the group on the paper. The task for the triad is to discuss each member of the entire group (exclude yourselves) in terms of what would be the most useful positive and negative feedback statements to give each member. You will probably find considerable disagreement in your triads about your reactions to the various members. You must develop the positive and negative feedback statements which include the reactions of everyone in your triad. The triad should think about how to state the feedback so it will be very clear, direct, and useful to the recipient. Each triad should complete two statements for each member.

Example:

The most negative behavior that Member A exhibits in this group is ----------.

The most valuable behavior that Member B exhibits in this group is ----------.

At the end of twenty minutes the group will reform and each triad will give each member of the group their joint feedback report verbally.

After the feedback report of each triad to the entire group is completed, the group should spend time comparing reports of different triads.

Were the triad's reports similar or quite different? Why? or Why not?
Were some triads more critical? Why?
Were some reports more useful? Why? Why not?

Learning to give constructive feedback to others is only one part of the process. Learning how to receive feedback from others is equally important. Two extreme reactions to receiving feedback is (1) to ignore the feedback and devalue it as being unimportant, hostile or useless or (2) to pay too much attention to all feedback and to try to change in accordance with all feedback received. Neither reaction is constructive. It is important to learn to deliberately weigh feedback from others in terms of the motivation of the sender, the correctness of the sender's perceptions, and the appropriateness of the behavior when it occurred even if the consensus of the feedback received is negative. (An effective group leader or teacher must sometimes behave in a manner to which he will receive only negative feedback.) In some cases it is important to ignore negative feedback. However, consistently dismissing it is a different situation. While people generally have the most difficulty with critical feedback it is important to be aware that some people under-react or over-react to positive feedback also.

Receiving Feedback Task

The group members should return to triads and discuss how the members of the triad felt about the feedback they received. (1) Discuss the feelings about the feedback. Were you hurt, did you feel attacked, pleased, or what? (2) Are there ways of changing your behavior that would be appropriate or possibly related to the feedback received? Members of the triads should help each other in turn to evaluate and suggest ways of effectively utilizing (or ignoring if appropriate) the feedback.

Structured Confrontation Exercise

The previous exercises in learning about the constructive use of giving and receiving feedback in the group have hopefully made each group member responsible for giving his own personal feedback to others. To the extent that people can do this spontaneously in the group, the group will have more meaningful interaction. Since some people find it difficult to give feedback to each other directly, this task is designed to facilitate this activity.

It is important that you try to think about some very honest feelings that you have about each member of the group and to consider both the most negative and positive feelings you experience in your interaction with each member. There are many ways that you could express these feelings. Take a piece of paper and a pencil and list the most positive and negative statements you would make about each member. Now go over these statements and check how clearly you have communicated what you feel. When you can describe the particular behavior that makes you feel a certain way your feedback will probably be the most effective.

When all the group members are ready each member should give his feedback to all the other group members. As each member finishes going around the circle the next person continues until each group member has given and received feedback from all other members.

Next the entire group should discuss their reactions to this exercise. Were there patterns? How valid was the feedback? Were some people very cautious about giving feedback? Why? Was this constructive or less useful to others? Was individual feedback more or less direct than the triad feedback reports?