THE EFFECT OF PUPIL FEEDBACK CONCERNING STUDENT TEACHER VERBAL BEHAVIOR ON SELECTED TEACHER CHARACTERISTICS AS PERCEIVED BY PUPILS

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ABSTRACT

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By

Irene Wong

Purpose of the Study

The purpose of this study was to develop a system for providing organized pupil feedback to student teachers concerning their classroom verbal behavior, and to determine the effect of such feedback on subsequent student teacher behavior in a selected number of teacher characteristics. It also provided information to determine whether the type of Student Teaching Program (Conventional versus "Cluster") influenced the variable of feedback treatment.

Methodology

Eighteen student teachers from each of the two Student Teaching Programs (Conventional and "Cluster"), randomly selected from the total Winter Term, 1971, enrollment of secondary school student teachers at Michigan State University, and their classes, were the subjects of

the study. Nine student teachers in each program were randomly assigned to an Experimental Group (which was provided with organized pupil feedback concerning their classroom verbal behavior) and the other nine to a Control group (which was not provided with organized pupil feedback concerning their classroom verbal behavior).

On the fifth week of student teaching, each student teacher of the Experimental Group, and his participating class or classes of pupils, completed a Student-Opinion Questionnaire (Form A), which was patterned after Flanders' ten categories for Interaction Analysis. The responses were summarized and analyzed by the writer and returned to the respective student teacher to serve as feedback about his classroom verbal behavior, as perceived by his pupils and self. The student teachers of the Control Group, and their classes, were not given the Form A questionnaire to complete nor were they given any organized pupil feedback like that received by the Experimental Group.

On the tenth or eleventh week of student teaching, the student teachers, of all groups, and their participating classes, completed another Student-Opinion Questionnaire (Form B). These responses provided the data for the study. Thus, the posttest-only control group design was used in the present study.

Two univariate analyses of variance (fixed effects model) were computed for each of the two dependent variables

of teacher self-evaluation and pupil-evaluation of their student teacher, and the level of significance was arbitrarily set at .025 for each analysis.

Findings of the Study

1. There is no significant difference between the mean scores on selected teacher characteristics of the student teachers receiving pupil feedback treatment and the student teachers not receiving pupil feedback treatment, as measured by the student teacher's self-evaluation.

   There is a significant difference between the mean scores on selected teacher characteristics of the student teachers receiving pupil feedback treatment and the student teachers not receiving pupil feedback treatment, as measured by the pupil-evaluation of their student teacher.

   The mean scores of the student teachers receiving pupil feedback were lower than the mean scores of the student teachers not receiving pupil feedback, as evaluated by their pupils.

2. There is no significant difference between the mean scores on selected teacher characteristics of the student teachers in the Conventional Student Teaching Program and the student teachers in the

"Cluster" Student Teaching Program, as measured by both the student teacher's self-evaluation and the evaluation by their pupils.

3. There are no significant interaction effects of the variables of pupil feedback treatment and Student Teaching Program, as measured by both the student teacher's self-evaluation and the evaluation by their pupils.

Conclusions

It is possible that pupil feedback treatment alone was responsible for the present findings. However, aware of the limitations of the study, the writer proposes a combination of factors, rather than pupil feedback treatment alone, to account for the unexpected results.

The pupils of the Experimental Group of student teachers only completed the Form A questionnaire, to provide pupil feedback to their student teachers. Because this initial evaluation is built into the treatment variable these pupils may be biased by a reactive effect of treatment as well as by a "halo effect."

In most cases, the pupil feedback to their student teacher included at least some harsh criticism. This factor may weaken the effects of pupil feedback for the Experimental Group of student teachers, especially if they

were not well-adjusted or have a negative self-concept, and may possibly result in alienation between student teachers and their pupils.

The subjects were randomly selected and assigned to the various groups; nevertheless, there was in the groups an unequal frequency of certain characteristics, such as subject matter taught and grade level of their participating classes. This differential distribution of characteristics may be another contributing factor to the present findings.

The period of only two to three weeks between (1) the provision of organized pupil feedback to the student teacher, and (2) the administration of the 'posttest,' may not have been sufficient time for him to capitalize on the full effects of this treatment.

And last, but not least, the design of the study itself may have contributed to the unexpected findings. It was hypothesized that pupil feedback from their responses to Form A items would effect change in student teacher behavior on a selected number of teacher characteristics as defined by Form B items. The nature of the feedback treatment and the final measure of the selected teacher characteristics may have been too different. It is also possible that the 'posttest' instrument was unable to detect all the changes resulting from the feedback treatment.

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By

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CHAPTER I

INTRODUCTION

Society has established the school as one of the principal "socialization cultures" for the child. Its influence is felt as he participates in the classroom and other school activities. "Peers and teachers represent the most direct influence figures in the pupil's classroom life."[1]

The pedagogical roles of the classroom are clearly delineated for teachers and pupils. "Teachers are expected to tell pupils how they perceive and evaluate them--their behavior, achievement, attitude, and the like,"[2] and they are also primarily responsible for soliciting responses from pupils and reacting to pupils' responses, and for

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[1] Robert S. Fox, Ronald O. Lippitt, and Richard A. Schmuck, Pupil-Teacher Adjustment and Mutual Adaptation in Creating Classroom Learning Environments. United States Department of Health, Education, and Welfare, Cooperative Research Project No. 1167 (Ann Arbor: Institute for Social Research, University of Michigan, 1964), p. 138.

[2] N. L. Gage, Philip J. Runkel, and B. B. Chatterjee, Equilibrium Theory and Behavior Change: An Experiment in Feedback from Pupils to Teachers (Urbana, Illinois: Bureau of Educational Research, College of Education, University of Illinois, 1960), p. 4.

structuring the lesson.[3] Since it is the teacher who has the most power to determine classroom activities, "change in classroom processes can be most effectively brought about by supplying feedback information concerning classroom processes to the teacher rather than to the pupils."[4]

> Student teachers, seemingly, are still at a relatively malleable stage with regard to teaching strategies. Since their professional classroom verbal behavior patterns are not yet irrevocably established, they can be guided in the development of verbal behavior.[5]

The use of pupil feedback in changing teacher classroom behavior has been reported by Tuckman and Oliver[6] and Gage, Runkel and Chatterjee[7] as being successful. Would pupil feedback be as effective also in changing student teacher classroom behavior?

If student teacher classroom behavior can be changed through the use of pupil feedback to result in

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[3]Arno A. Bellack, Herbert M. Kliebard, Ronald T. Hyman, and Frank L. Smith, Jr., The Language of the Classroom (New York: Bureau of Publications, Teachers College, Columbia University, 1966), p. 47.

[4]Gage, Runkel, and Chatterjee, loc. cit.

[5]Richard Eves Ishler, "An Experimental Study Using Withalls' Social-Emotional Climate Index to Determine the Effectiveness of Feedback as a Means of Changing Student Teachers' Verbal Behavior," The Journal of Educational Research, 61 (November, 1967), 121.

[6]Bruce W. Tuckman and Wilmont F. Oliver, "Effectiveness of Feedback to Teachers as a Function of Source," Journal of Educational Psychology, 59 (August, 1968), 297-301.

[7]Gage, Runkel, and Chatterjee, op. cit.

the production of a more successful beginning teacher, then pupil feedback becomes yet another effective procedure for upgrading the quality of teacher preparation program, especially the student teaching portion.

Purpose of the Study

This study was designed to develop a system for providing organized pupil feedback to student teachers concerning their classroom behavior, as perceived by their pupils, and to determine whether or not such organized pupil feedback would effect change on a selected number of teacher characteristics. It also provided information to answer the following questions:

1. Do student teachers who receive pupil feedback (Experimental Group) differ significantly on selected teacher characteristics from student teachers who do not receive pupil feedback (Control Group), as measured by the student teacher's evaluation of self and by the pupils' evaluation of their student teacher?
2. Do student teachers in the Conventional Student Teaching Program differ significantly on selected teacher characteristics from student teachers in the "Cluster" Student Teaching Program, as measured by the student teacher's evaluation of self and by the pupils' evaluation of their student teacher?

3. Will there be a significant interaction of feedback treatment and student teaching program effects, as measured by the student teacher's evaluation of self and by the pupils' evaluation of their student teacher?

Problem Under Investigation

The problem that was investigated in this study was whether or not pupils' responses to a Student-Opinion Questionnaire (Form A), which were analyzed by the writer and returned to the student teacher as feedback, effected any change in student teacher with regard to a selected number of teacher characteristics. The Student-Opinion Questionnaire (Form A) was adapted from Flanders' ten categories of verbal interaction. The selected teacher characteristics presented in Form B were adapted from a Student-Opinion Questionnaire developed by the Student Reaction Center, Western Michigan University, and Form B served as a 'posttest' for all subjects in the present study. Differences in the responses to the Form B items served as the measure of the experimental variable under investigation.

Theory Underlying the Study

The classroom teacher fulfills the role of group leader and "sets the tone or the climate of the classroom,

and her verbal behavior is one medium by which she projects her influence."[8] Withall asserts that "the teacher's behavior is the most important single factor in creating the classroom climate,"[9] and Withall and Lewis proposes that the teacher's verbal behavior may be taken as representative of his total behavior.[10]

In the classroom, the teacher is continuously interacting with his pupils as he guides their learning activities. During this process of interaction he influences the child intentionally with planned behavior or sometimes consciously but without planning. Often he is not aware of "his behavior and the effect of his behavior on the learning process."[11]

A discrepancy can, therefore, develop between what a teacher thinks he is doing or what he will recognize as his purposes (his intentions) and what he actually

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[8]Ishler, loc. cit.

[9]John Withall, "The Development of a Technique for the Measurement of Social-Emotional Climate in Classrooms," Journal of Experimental Education, 17 (March, 1949), 347.

[10]John Withall and W. W. Lewis, "Social Interaction in the Classroom," Handbook of Research on Teaching, ed. N. L. Gage (Chicago: Rand McNally and Company, 1963), p. 697.

[11]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, Minnesota: Paul S. Amidon and Associates, Inc., 1963), p. 1.

does (his actions),[12] or between a teacher's (self-) perception of his classroom behavior and his pupils' perception of the same behavior.[13] It seems probable that this difference can be minimized by providing the teacher with feedback about his classroom behavior.

People are usually quite capable of improving their styles of interpersonal communication and becoming more effective as people when they become aware of their behavior.[14]

The fact that teachers change as a result of pupil feedback has been demonstrated,[15, 16] but studies involving student teacher change due to pupil feedback are few and results were sometimes not in the hypothesized direction.[17]

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[12]Ned A. Flanders and others, Helping Teachers Change their Behavior, (Ann Arbor, Michigan: School of Education, The University of Michigan, 1963), p. 2.

[13]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. 51.

[14]John H. Suehr, "Feedback: The Most Promising Innovation for Secondary Schools," Michigan Journal of Secondary Education, 9 (Fall, 1967), 2.

[15]Tuckman and Oliver, loc. cit.

[16]Gage, Runkel, and Chatterjee, loc. cit.

[17]Marjorie L. Savage, "Changes in Student Teachers Through Use of Pupil Ratings," Dissertation Abstracts, XVIII, 5 (May, 1958), 1733.

The transition from college student to teacher may be a gradual process for some, but for others "the effective role learning may not occur until the teacher experiences the 'reality shock' of his first teaching assignment."[18]

If during the process of learning to teach the student teacher is provided with

> ...a set of instructional principles to guide his teaching, and can through practice and immediate feedback become aware of and analyze his evolving teaching behavior, he has some basis for developing an effective repertoire of teaching behaviors.[19]

> A significant factor in the success of a student teacher is the kind of effect he has on pupils, or how pupils perceive his characteristics and performance. Sensitivity to pupil reactions early in student teaching is desirable if a teacher is to perform effectively.[20]

Pupils may not be as competent as trained adult observers in objectively assessing teacher behavior, but their subjective perception and interpretation certainly influence their learning. Nevertheless, pupil feedback

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[18]Miriam Wagenschein, "'Reality shock': A Study of Beginning Elementary School Teachers" (Unpublished Master's Thesis, University of Chicago, 1950), cited by W. W. Charters, Jr., "The Social Background of Teaching," Handbook of Research on Teaching, ed. N. L. Gage (Chicago: Rand McNally and Company, 1963), p. 752.

[19]John B. Hough, "Changing the Teacher's Instructional Behavior," Michigan Journal of Secondary Education, 7 (Winter, 1966), 28.

[20]Marjorie L. Savage, "Pupil Ratings Used in Student Teaching," American Vocational Journal, 37 (January, 1962), 19.

has been shown to be valuable for judging the effectiveness of a teaching practice. It becomes, according to Schmuck and others, a "corrective mechanism for the teacher who wants to improve his teaching and to learn how well his execution matches his intentions."[21]

Also, says Savage, "the opinions of an entire group of pupils, regardless of their 'objective validity,' can have educational significance and reliability, and, in this sense, pupil ratings are valid."[22]

With the development of systematic observational techniques, the collection of data and meaningful feedback became possible. Flanders has developed one of the most widely known and used observational systems, which is "particularly concerned with influence pattern of the teacher."[23] It has been used in

> ...a variety of teacher training activities to provide teachers with a means of obtaining feedback about their own teaching behaviors and the effects of those

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[21]Richard Schmuck, Mark Chesler, and Ronald Lippitt, Problem Solving to Improve Classroom Learning. Teacher Resource Booklets on Classroom Social Relations and Learning (Chicago: Science Research Associates, Inc., 1966), p. 68.

[22]Savage, op. cit., p. 20.

[23]Ned A. Flanders, Interaction Analysis in the Classroom: A Manual for Observers (Ann Arbor, Michigan: School of Education, The University of Michigan, January, 1964), p. 1.

behaviors on the quantity and quality of student participation in their classrooms.[24]

Michigan State University has both the Conventional Student Teaching Program and the "Cluster" Student Teaching Program. In a study to compare the Michigan State University Conventional Student Teaching Program with the cooperative Michigan State University-Lansing School System SERL Project (the SERL Project is one of the "Cluster" Student Teaching Program types in the present study), on the variables of "openness" and "attitude formulation," Chase reported that student teachers in the SERL Project showed more positive gains in both attitude and openness than the Conventional student teachers. He attributed the difference to the socialization and the interaction of the group of student teachers, and the influence of the many individuals and agencies in the SERL Project,[25] raising the question as to whether pupil feedback to student teachers lead to different results for student teachers in the two Student Teaching Programs.

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[24]Ned A. Flanders, "Flanders System of Interaction Analysis," Mirrors for Behavior II. An Anthology of Observation Instruments. Volume A. Classroom Interaction Newsletter, eds. Anita Simon and E. Gil Boyer, (Philadelphia, Pennsylvania: Research for Better Schools, Inc., 1970).

[25]Donald J. Chase, "A Comparative Study of the Cooperative Michigan State University-Lansing SERL Project and the Conventional Program of Student Teaching with reference to Openness and Attitude Formation" (unpublished Ph.D. dissertation, Michigan State University, 1971).

Significance of the Study

"Whatever else it may be, teaching is an intriguing, important, and complex process."[26] Teacher preparation institutions are continually searching to improve the effectiveness of teaching and the preparation of teachers for the profession.

The present study was initiated with the hope that an effective procedure for improving the quality of the teacher preparation program, especially the student teaching experience, would be found. The "feedback treatment" in the study is simple and the entire procedure can be adopted by virtually any teacher training institution, school, or individual, without involving much cost or organizational change.

This study was designed primarily to develop a pupil feedback system for student teachers concerning their classroom behavior, and this was considered important for student teacher growth and improvement. Basically, it is an attempt to adapt pupils' responses and feedback to the need for self-discovery and improvement of the student teacher. Specifically, the major purpose of the study is to differentiate the effect of pupil feedback treatment on student teachers, and to observe

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

the change, if any, in a number of selected teacher characteristics, as measured by the student teacher's evaluation of self and by the pupils' evaluation of their student teacher.

Hypotheses

As a result of the questions raised and the theory presented, the following hypotheses were formulated:

Hypothesis One

Student teachers receiving pupil feedback (Experimental Group) differ significantly on selected teacher characteristics from student teachers not receiving pupil feedback (Control Group), as measured by the student teacher's evaluation of self and by the pupils' evaluation of their student teacher.

Hypothesis Two

Student teachers in the Conventional Student Teaching Program differ significantly on selected teacher characteristics from student teachers in the "Cluster" Student Teaching Program, as measured by the student teacher's evaluation of self and by the pupils' evaluation of their student teacher.

Hypothesis Three

There is a significant interaction of pupil feedback treatment and student teaching program effects, as measured by the student teacher's evaluation of self and by the pupils' evaluation of their student teacher.

Some Basic Assumptions

For the purpose of the study, the following assumptions are identified:

1. The student teacher, given charge of his class, occupies a focal point and is the most influential person in determining the classroom climate.

2. The student teacher has yet to acquire a fixed pattern of teaching behavior and can be guided in the development of certain teacher characteristics.

3. The student teacher communicates in the form of both verbal and non-verbal messages, but the verbal behavior of a teacher may be taken as a representative sample of his total classroom behavior.

4. Pupils' responses to a Student-Opinion Questionnaire about their perception of their student teacher classroom behavior can be organized to provide feedback to the teacher about his behavior and how it affects his pupils.

5. The effect of pupils' feedback can be measured by a change in a number of selected teacher characteristics, as perceived by the student teachers themselves and by their pupils, and indicated by their responses to a 'post-test' Student-Opinion Questionnaire.

Limitations

The sample in this study was composed of thirty-six secondary school student teachers, randomly selected from the Winter Term, 1971, student teaching enrollment at Michigan State University. Eighteen of these student teachers were in the Conventional Student Teaching Program and the other eighteen in the "Cluster" Student Teaching Program. No efforts were made to match grade level, sex, discipline taught, or any other variable. The only restriction considered was that no two subjects receiving pupil feedback treatment (Experimental Group) would be in the same school district to minimize socialization about participation in the study and thereby possibly negating the treatment variable effect. All the cooperating schools in the study are located in the state of Michigan.

Definition of Terms

Several terms used in this study require definition because of the various meanings they have to different people.

Student Teacher.--A college student acquiring practical teaching experience and skill under the guidance of a supervising teacher in the practice school of a teacher training institution or in the classes of a public or private school.[27] At Michigan State University the prerequisites to student teaching are: Junior or Senior standing in the College of Education, with completion of at least 105 quarter term hours, a cumulative grade point average of at least 2.0, and a minimum of a 2.0 point average in all pre-student teaching education courses and in all courses completed in his major field.[28]

Conventional Student Teaching Program.--As in most institutions, this program involves the assignment of a student teacher to an experienced teacher (known as the cooperating or supervising teacher), who is responsible for the in-class supervision of the student teaching experience. In this arrangement "the student spends most of his time in the classroom of his supervisor with little chance of exposure to other teaching models."[29] A faculty

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[27]Carter V. Good, Dictionary of Education (New York: McGraw-Hill Book Company, Inc., 1945), p. 392.

[28]Michigan State University, Catalog of Courses and Academic Programs, 1970, p. 134.

[29]Lee Dean and W. Henry Kennedy, "A Position Paper on Student Teaching Programs," Teacher Education in Transition, Howard E. Bosley (Director) (Baltimore, Maryland: Multi-State Teacher Education Project, 1969), p. 166.

member from Michigan State University (referred to as the 'college coordinator') and the cooperating teacher have joint responsibilities for the observation, evaluation, and provision for the student teacher of experiences and assistance during this student teaching period. The college coordinator holds seminars weekly with the group of student teachers in his charge to discuss problems or other matters pertaining to student teaching.

"Cluster" Student Teaching Program.--This program was initiated and designed such that: (1) "it would provide for individual differences among students," (2) the student teacher could come in contact with "several teachers and various teaching styles," (3) it could provide "many other kinds of school experiences for the student teacher in addition to classroom teaching," and (4) greater joint involvement of the public schools and the teacher preparation institutions in the design and implementation of teacher education programs.[30] To achieve these desired effects, clusters of ten to twelve student teachers are assigned to a school building. A classroom teacher from the building is released half time to work as a clinical consultant, supervising the experience of the student teachers in the building. The school is reimbursed for the released time of the teacher. A

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[30] Ibid., pp. 165-167.

University faculty member (Student Teaching Center Director) provides university supervision and leadership and in-service training for the Clinical Consultant, who, in cooperation with the Center Director and building staff, develops a training program for each individual student teacher. The student teachers group and regroup themselves for common purposes and vary their experiences with different classrooms. There is more socialization and interaction among the student teachers themselves and with the teachers in the building. The student teacher works with several different teachers and the responsibility of supervising the student's experience is shared by the Clinical Consultant and the building staff.[31]

Organized Pupil Feedback Treatment.--Pupils, of student teachers in the Experimental Group only, indicated their perception of their student teacher classroom verbal behavior by completing a Student-Opinion Questionnaire (Form A)(Appendix B-1), and these responses to the questionnaire were subsequently analyzed by the researcher using in part the Flanders' interpretation of matrices (Appendix C-3).[32]

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[31]W. Henry Kennedy, "Responsibilities in Clinical Cluster Program. Supplement to Agreement with School for Clinical Clusters" (East Lansing, Michigan: Student Teaching Office, Michigan State University, n.d.).

[32]Ned A. Flanders, Interaction Analysis in the Classroom: A Manual for Observers (Ann Arbor, Michigan: School of Education, The University of Michigan, January, 1964), pp. 19-23.

This analysis and a summary of the pupils' comments were then returned to the respective student teacher (in the Experimental Group only) to serve as organized pupil feedback about his classroom behavior.

Selected Teacher Characteristics.--The Student-Opinion Questionnaire (Form B) (Appendix D-1), adapted from a Student-Opinion Questionnaire developed by the Student Reaction Center, Western Michigan University (Appendix F), measured thirteen teacher characteristics which are referred to in the present study as 'selected teacher characteristics.' In the final analysis of the data the last mentioned characteristic, "ASSIGNMENTS: How challenging and reasonable are assignments (out of class, required work)?," was omitted because it was not completed by a number of the subjects, who indicated that it was inappropriate for the subject matter taught to them (example, physical education, art, and home economics).

Organization of the Study

The study is organized into five chapters. Chapter I is the introductory chapter, and describes the purpose of the study, the problem under investigation, theory underlying the study, and significance of the study. The hypotheses, basic assumptions, and limitations of the

study are also presented, together with a definition of some terms used in the study.

Chapter II presents a review of literature pertinent to the study and focuses on the climate for learning, teacher influence and interaction in the classroom, change through feedback, pupil feedback, instrumentation, and effect of feedback on student teachers.

Chapter III describes the design of the study, with emphasis on the sample, methodology, and statistical hypotheses.

Chapter IV consists of the presentation and analysis of data and the discussion of the findings.

Chapter V includes the summary and conclusions derived from the study, and presents recommendations for further research.

CHAPTER II

REVIEW OF LITERATURE

The school is one of the institutions responsible for the process of "socializing and acculturating the individual. Here trained workers deliberately utilize social interaction to bring about changes in the knowledge, skill, and attitudes of the youth put into their charge."[1] Classroom learning undoubtedly involved "traffic in feelings as well as ideas" between teacher and pupils and among all the individuals in the classroom.[2]

If a child thinks of his school as a place where he is helped with his problems, "his attitude toward school and his behavior in school are likely to be improved." But, if in school he feels misunderstood and extra strains are placed on him, his anxieties and frustration tend to lead to unapproved behavior.[3] Since the

[1]John Withall and W. W. Lewis, "Social Interaction in the Classroom," Handbook of Research on Teaching, ed. N. L. Gage (Chicago: Rand McNally and Company, 1963), p. 687.

[2]Ibid.

[3]Ralph H. Ojemann, Personality Adjustment of Individual Children: What Research Says to the Teacher, Department of Classroom Teachers, American Educational Research Association of the National Education Association, Vol. 5 (Washington, D.C.: National Education Association, 1954), pp. 5-6.

teacher is one of the most influential figures in the school life of a child, the teacher's behavior may have an effect on the child, ranging from a disintegrating to a constructive effect.

"Most of the innovations in secondary schools are 'surface effect' innovations." There seems to be adequate evidence that future innovations will be of a process nature rather than structural change. One of these processes is the concept of feedback.[4]

"A characteristic of the social or educational practice situation is that the practitioner gets very little feedback about the effectiveness of his adoption effort." A farmer can easily recognize a fertile soil or a productive seed. "But the teacher typically lacks the criteria and the tools" to make a check on a new practice model.[5]

Participation in student teaching is of particular significance in that this experience "shapes the teacher's role conceptions and his attitudes and values concerning himself, his colleagues, his clients, and the teaching-learning process."[6]

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[4]John H. Suehr, "Feedback: The Most Promising Innovation for Secondary School," Michigan Journal of Secondary Education, 9 (Fall, 1967), 2.

[5]Ronald Lippitt, "The Use of Social Research to Improve Social Practice," American Journal of Orthopsychiatry, 35 (July, 1965), 668.

[6]W. W. Charters, Jr., "The Social Background of Teaching," Handbook of Research on Teaching, ed. N. L. Gage (Chicago: Rand McNally and Company, 1963), p. 749.

The literature reviewed in this chapter focuses on: (1) climate for learning, (2) teacher influence and interaction in the classroom, (3) change through feedback, (4) pupil feedback, (5) instrumentation, and (6) effect of feedback on student teachers.

Climate for Learning

Classroom climate refers to

> generalized attitudes toward the teacher and the class that the pupils share in common in spite of individual differences. The development of these attitudes is an outgrowth of classroom social interaction.[7]

The climate or environment under which a group works decides its effectiveness. Gibb is of the opinion that "the setting of a climate for learning is essentially a matter of facilitating certain group norms which permit the individual to learn," and he presents four norms for an effective learning environment:

1. Intrapersonal and interpersonal exposure of ideas and feelings--In order to learn anything significant a social animal must have active and compelling interaction with his fellow beings. One cannot be a passive participant, but must actively interact with books,

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[7]Ned A. Flanders, "Teacher Influence in the Classroom," Theory and Research in Teaching, ed. Arno A. Bellack (New York: Bureau of Publications, Teachers College, Columbia University, 1963), p. 38.

experiences, authorities, and other sources in order to learn.

2. Feedback--Feedback which implies inadequacies of the individual is "potentially damaging to the ego," but it can also be potentially constructive and in a supportive environment one can learn to adjust and grow into a happier and more productive individual.

3. A supportive atmosphere--For maximum learning, the classroom atmosphere should be non-threatening and non-defensive. "When feedback follows exposure in an evaluative, punitive or defensive climate, the result is resistance, defensiveness, and refusal to look at the feedback" that is offered. When a learner recognizes his problems and feels there is sharing in the search for solutions to his problem, without having to defend his ideas and feelings, learning can occur.[8] In a classroom that is conducive to learning, individual differences and pupil creativity are valued and change is perceived as normal and desirable,[9] and "each individual accepts and

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[8]Jack R. Gibb, "A Climate for Learning," Adult Education, 9 (August, 1958), 19-21.

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

prizes his own uniqueness, thus strengthening his self-image while still maintaining group security."[10]

4. Provisional and exploratory behavior--In testing new grounds, as in the acquisition of new ideas and attitudes, the learner must be permitted to feel "free to share tentative and poorly formulated expressions of intuitive insights, temporary generalizations, and partially formulated ideas" without being threatened with ridicule or other forms of negative judgment.[11]

The studies of Anderson, Helen and Joseph Brewer, and Reed related spontaneous pupil and teacher behavior directly to classroom climate. Their combined findings indicated that the behavior of the teacher, more than any other individual, sets the climate of the classroom. Teachers who use integrative contacts appear to promote spontaneity and initiative, voluntary social contributions and acts of problem solving in their pupils. When a teacher used dominative techniques, they produced in their children aggressive and antagonistic behaviors which are directed toward their teachers and peers.[12, 13, 14, 15]

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[10]Ronald C. Doll (ed.), Individualizing Instruction, Association for Supervision and Curriculum Development Yearbook (Washington, D. C.: National Education Association, 1964), p. 100.

[11]Gibb, op. cit., p. 21.

[12]Harold H. Anderson, "The Measurement of Domination and of Socially Integrative Behavior in Teachers' Contacts with Children," Child Development, 10 (June, 1939), 73-89.

Once established by the teacher, classroom climate, even though it may vary somewhat daily, remains relatively constant over time. If this is so,

> the initial set of feelings and relationships in the classroom are crucial, for they not only establish its climate but to a large extent they set the stage and determine the kinds and amounts of learning that follow.[16]

Since the ultimate objective of teacher education is to increase the teacher's skill in helping pupils learn, the student teacher should be made aware of the kind of social-emotional climate which apparently facilitates learning.

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[13]Harold H. Anderson and Helen M. Brewer, Studies of Teachers' Classroom Personalities, 1. Dominative and Socially Integrative Behavior of Kindergarten Teachers, Applied Psychology Monographs, No. 6 (Stanford, California: Stanford University Press, 1945).

[14]Harold H. Anderson and Joseph E. Brewer, Studies of Teachers' Classroom Personalities, II. Effects of Dominative and Integrative Contacts on Children's Classroom Behavior, Applied Psychology Monographs, No. 8 (Stanford, California: Stanford University Press, 1946).

[15]Harold H. Anderson, Joseph E. Brewer, and Mary Frances Reed, Studies of Teachers' Classroom Personalities, III. Follow-up Studies of the Effects of Dominative and Integrative Contacts on Children's Behavior, Applied Psychology Monographs, No. 11 (Stanford, California: Stanford University Press, 1946).

[16]Richard Eves Ishler, "An Experimental Study Using Withalls' Social-Emotional Climate Index to Determine the Effectiveness of Feedback as a Means of Changing Student Teachers' Verbal Behavior," The Journal of Educational Research, 61 (November, 1961), 121.

Teacher Influence and Classroom Interaction

The most influential person in the classroom is the teacher,[17] and there is nothing he can do to avoid controlling the situation. Beginning with their first class encounter, the students form an image of the kind of behavior they can expect from their teacher, and the kind of behavior that is expected from them, in turn, by the teacher. "If the teacher has any impact at all on the pupils' classroom learning, it must be mediated by his behavior in the classroom.[18]

Essentially, a "superior-subordinate relationship exists in the classroom, with the power component held by the teacher."[19] The teacher cannot act without exercising influence and, consequently, the teacher's verbal and identifiable nonverbal behaviors perform a function for the student or group in focus in the situation. "No pupil can consistently ignore the authority of the teacher

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[17]Ned A. Flanders, Teaching with Groups (Minneapolis, Minnesota: Burgess Publishing Company, 1954), p. 12.

[18]Donald M. Medley, "Experiences with the OScAR Technique," Journal of Teacher Education, XIV (September, 1963), 267.

[19]Marie M. Hughes, "Utah Study of the Assessment of Teaching," Theory and Research in Teaching, ed. Arno A. Bellack (New York: Bureau of Publications, Teachers College, Columbia University, 1963), p. 29.

and it is most difficult and sometimes impossible for a pupil to escape from the teacher's control."[20]

The findings of Anderson et al., indicated that the behavior of the teacher, more than any other person, sets the climate of the class. Even when a teacher is absent from the room his tendency spreads among the pupils. Moreover, the pattern a teacher develops in one year is likely to persist in his classroom the following year with completely different pupils.[21, 22, 23, 24]

The teacher's intent to instruct in such a manner as to effect change in pupil behavior and the pupil's responses form the dynamics of the classroom interaction. Teaching may then be defined as the interaction of the teacher with the child, individual or a group.[25]

The interaction between teacher and pupils is recognized and encouraged by educators. Combs writes, "Children need to be given positive experiences of

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[20]Ned. A. Flanders, "Teacher Influence in the Classroom," Interaction Analysis: Theory, Research and Application, ed. Edmund J. Amidon and John B. Hough (Reading, Massachusettes: Addison-Wesley Publishing Company, 1967), p. 108.

[21]Anderson, loc. cit.

[22]Anderson and H. Brewer, loc. cit.

[23]Anderson and J. Brewer, loc. cit.

[24]Anderson, J. Brewer, and Reed, loc. cit.

[25]Marie M. Hughes, "Teaching is Interaction," Elementary School Journal, 58 (May, 1958), 457-464.

interaction with teachers,"[26] and "The feeling of belonging (the child's) is a consequence of interaction."[27]

Bruner states, "Intellectual development depends on a systematic and contingent interaction between tutor and learner."[28]

Stolurow and Pahel hold that

> ...teaching is fundamentally a social process involving communication and interaction between at least two people, a teacher and a student. It is a kind of dialectic in which both serve as teacher and student at different times and at different levels. A teacher is not only instructing a student, but is also learning about that student, and using what he learns in making decisions about what to do next in the course of his teaching. Similarly, the student is not only learning, but he is providing information to the teacher, which in turn, guides the teacher in the ongoing interaction.[29]

The American Educational Research Association Committee defines teaching as a "form of interpersonal influence aimed at changing the behavior potentials of another person." But, "the teacher's behavior must gain its influence through being perceived by the learner."[30]

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[26]Arthur W. Combs, The Professional Education of Teachers (Boston: Allyn and Bacon, Inc., 1965), p. 68.

[27]Ibid., p. 168.

[28]Jerome S. Bruner, Toward a Theory of Instruction (Cambridge: Belknap Press of Harvard University, 1966), p. 6.

[29]Lawrence M. Stolurow and Kenneth R. Pahel, "Is Programmed Instruction Socratic?," Harvard Educational Review, 33 (Summer, 1963), 384.

[30]N. L. Gage, "The Handbook of Research on Teaching," Journal of Teacher Education, XIII (March, 1962), 91.

This definition includes the learner and his perception of the teacher's behavior as necessary to his receiving the influence that might induce change in his own behavior.

Social interaction is that relation between persons such that "the behavior of either one is a stimulus to the behavior of the other."[31] Classroom interaction is

> dynamic and complex. One act begets another. Even an act that ignores the act of another is still a response and has its effect on the initiator. The ebb and flow of actions and reactions constitutes a feedback system.[32]

Since the teacher is the principal manipulator of the educational environment of the child, an effective teacher, like any effective leader, would have to be "person-centered" to deal with the learners.[33]

The work of Lewin, Lippitt and White demonstrated the influence of the leader on group life and productivity and has, therefore, implications for teacher education. It was found that different styles of leader behavior

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[31]Horace B. English and Ava Champney English, A Comprehensive Dictionary of Psychological and Psychoanalytical Terms (New York: Longmans, Green, 1958), p. 270.

[32]Hughes, loc. cit.

[33]Thomas Gordon, "What is Gained by Group Participation?," Educational Leadership, 7 (January, 1950), 225.

produce different social climates and different group and individual behaviors. Group members in a democratic social climate were more friendly to each other, more work-minded, and showed greater initiative.[34]

In a study on the effectiveness of training in the evaluation of classroom instruction as an aid to self-evaluation in student teaching, Jalbert concluded that this training "helped students most in the areas of organization and teacher-related areas and least in their concern for children," and she stressed that students need to have "concern for the process of interaction between the teacher and the learner, as well as for the techniques of performance."[35]

Jenkins pointed to the interdependent relation between the teacher and his pupils and among the pupils themselves. He stresses that learning will be more effective when the pupils' emotional needs are satisfied in the classroom and also when learners are made aware of their contribution in helping teachers fulfill some of the teacher's needs in the classroom, such as the needs to

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[34]Kurt Lewin, Ronald Lippitt, and Ralph K. White, "Patterns of Aggressive Behavior in Experimentally Created 'Social Climates,'" Journal of Social Psychology, 10 (May, 1939), 271-299.

[35]Elizabeth Lynch Jalbert, "The Effectiveness of Training in the Evaluation of Classroom Instruction as an Aid to Self-Evaluation in Student Teaching," The Journal of Educational Research, 60 (November, 1966), 130-135.

become more effective in fulfilling their professional responsibilities and to achieve a sense of adequacy and worthwhileness.[36]

Since the teacher's verbal behavior may be taken as "a representative sample of her total behavior" as reported in a study of social-emotional climate in the classroom,[37] it is reasonable to assume that observation and analysis of this overt behavior will enable one to make inferences about the covert dynamics of interaction going on in the classroom.

Change Through Feedback

O wad some power the giftie gie us
To see ourselves as ithers see us!
It wad frae mony a blunder free us
And foolish notion.

Robert Burns

The teacher is continuously interacting with his pupils as he guides their learning activities in the classroom. Sometimes he influences them intentionally

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[36]David H. Jenkins, "Interdependence in the Classroom," The Journal of Educational Research, 45 (October, 1951), 137-144.

[37]John Withall, "The Development of a Technique for the Measurement of Social-Emotional Climate in Classrooms," Journal of Experimental Education, 17 (March, 1949), 348.

with planned behavior, sometimes consciously without planning, but often he is not aware of "his behavior and the effect of this behavior on the learning process."[38]

When teachers do not have access to information about their behavior, a discrepancy may develop between what a teacher thinks he is doing (his intent) and what he actually does (his acts).[39]

In his Autocrat of the Breakfast Table, Oliver Wendell Holmes observed that in any dialogue the individual is at least three persons--as he perceives himself, as others perceive him, and as he thinks others perceive him.[40] This may certainly be true of the teacher in the classroom.

Sometimes a teacher makes inaccurate interpretations and if he acts according to them he may not achieve effective results. For example, if a teacher thinks a child with the better grades is the peer leader, when in

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[38]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, Minnesota: Paul S. Amidon and Associates, Inc., 1963), p. 1.

[39]Ned A. Flanders and others, Helping Teachers Change their Behavior (Ann Arbor, Michigan: School of Education, The University of Michigan, 1963), p. 2.

[40]Oliver Wendell Holmes, The Autocrat of the Breakfast Table, cited by H. H. Remmers, "Rating Methods in Research on Teaching," Handbook of Research on Teaching, ed. N. L. Gage (Chicago: Rand McNally and Company, 1963), p. 363.

fact he is not, and chooses him to lead a group, the child will fail in influencing the group and results desired by the teacher may not occur. Hence a "teacher cannot plan change in his classroom unless he knows exactly what is going on there."[41]

Pupil classroom behavior is " a powerful influence on teacher's self-evaluation." In a study by Jenkins and Deno, the positive feedback (experimental) group of teachers had pupils who acted interested and excited during a lesson, and the negative feedback (control) group of teachers had pupils who acted uninterested and unexcited during their lesson. In their completed questionnaires, the former group of teachers reported they found teaching more enjoyable, predicted they would be more effective teachers, and thought their students learned more, when compared to the latter group of teachers. Since the relation between the existence of necessary or sufficient classroom behavior and student-subject matter acquisition has not been shown, teachers would do well to delay judgment of their effects unless they objectively determine student performance, otherwise they will be making inappropriate or inaccurate interpretations from momentary

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[41]Richard Schmuck, Mark Chesler, and Ronald Lippitt, Problem Solving to Improve Classroom Learning, Teacher Resource Booklets on Classroom Social Relations and Learning (Chicago: Science Research Associates, Inc., 1966), p. 23.

affective pupil feedback. If teachers "judge their effectiveness on the basis of product criteria," then teaching behavior becomes "a function of student behavior," making it an important source of feedback.[42]

When a teacher studies his own behavior in a systematic and objective method he is provided with feedback about his own pattern of influence. "Given such feedback, he may decide he wants to change his behavior because he is not achieving what he thought he was achieving, or he is not achieving what he has now decided he wants to achieve on the basis of new insights" about the learning situation.[43]

Pupil feedback then is valuable for a teacher who wants to judge the effectiveness of his teaching. It becomes a "corrective mechanism for the teacher who wants to improve his teaching and to learn how well his execution matches his intentions."[44]

Feedback increases the accuracy of a teacher's perception of his pupils' opinions, and "unless a teacher is aware of his teaching behavior, he has no basis for

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[42]Joseph R. Jenkins and Stanley L. Deno, "Influence of Student Behavior on Teacher's Self-evaluation," Journal of Educational Psychology, 60 (November, 1969), 439-442.

[43]Amidon and Flanders, op. cit., p. 1-2.

[44]Schmuck, Chesler, and Lippitt, op. cit., p. 68.

changing it."[45] Feedback about his teaching behavior is necessary for a teacher who wants to improve.[46]

An indication of the usefulness of feedback and its effect on teacher behavior is especially evident in the heuristic or discovery methods. The teacher directs the pupil's attention to some data and the pupil makes an inference. If his inference, demonstrated by his verbal or non-verbal behavior, is correct, the pupil is informed of his success, and could go on to another set of data. If it is incorrect he seeks new data and feedback about the accuracy of his responses and is guided until he discovers for himself the item of knowledge. In this method the teacher is also provided with feedback from the pupil's inferences and behavior, and it is "the feedback from the student's behavior to the teacher that characterize the heuristic methods." A teacher cannot have confidence that his methods are "efficacious in attaining his goal, unless he, too (like his pupils) is provided with some feedback concerning his classroom behavior."[47] Some of the claims

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[45]John B. Hough, "Changing the Teacher's Instructional Behavior," Michigan Journal of Secondary Education 7 (Winter, 1966), 31.

[46]Schmuck, Chesler, and Lippitt, op. cit., p. 23.

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

(example, enhances retention) of the proponents of the discovery methods are supported in a study by Worthen.[48]

Jersild writes,

> 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 something in which he himself must be involved.[49]

Therefore, the answer to effective teaching may lie within the teacher himself, who is his own best critic and assumes the major responsibility for his evaluation.[50]

In social or educational practice situations, "the practitioner gets very little feedback about the effectiveness of his adoption effort." A farmer can easily recognize good soil or seed from its productive capacity.

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[48]Blaine R. Worthen, "A Study of Discovery and Expository Presentation: Implications for Teaching," Journal of Teacher Education, XIX (Summer, 1968), 223-242.

[49]Arthur T. Jersild, When Teachers Face Themselves (New York: Bureau of Publications, Teachers College, Columbia University, 1955), pp. 13-14.

[50]Dan Selakovich, "Self-Evaluation by Student Teachers," Journal of Teacher Education, XII (June, 1961), 225-228.

> But the teacher typically lacks the criteria and the tools to make this type of check. There is less sense of reward for the effort and very little data for quality control to provide guidance to the practitioner who is making an effort to use a new practice model.[51]

Pupil feedback could be used to inform a teacher regarding the effectiveness of his teaching efforts.

Ryans proposes a theoretical model whereby "the teacher may be considered as an information-processing system that functions for the purpose of aiding the pupil in acquiring an appropriate behavior repertoire," and holds that

> the information processing on the part of the teacher-system culminates, in a given teaching situation, in certain overt and directly observable 'information-forwarding' responses which are directed at the teacher's pupil or pupils.[52]

In presenting the model, Ryans lists one of the advantages as directing "attention to the importance of 'feedback' to the teacher; feedback through pupil response and reactions, through tests and evaluative devices, or by other means which will inform the teacher of the effectiveness of procedures employed and permit their modification as required."[53]

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[51] Ronald Lippitt, "The Use of Social Research to Improve Social Practice," American Journal of Orthopsychiatry, 35 (July, 1965), 668.

[52] David G. Ryans, "Teacher Behavior Theory and Research: Implications for Teacher Education," Journal of Teacher Education, XIV (September, 1963), 274.

[53] Ibid., p. 281.

In helping with change in any situation, a teacher, like any leader, needs real insight into the assumptions and values guiding the behavior of the persons involved.[54] The process of change is enhanced when the person who will be affected can participate in the decision-making process and in planning for the change.[55]

In discussing areas of experimentation and innovation relating to the future role of direct experience in teacher education, Hunter and Amidon mentioned the possibilities of media, such as 8 mm motion pictures, tape recorders, television, for providing critically needed feedback about the teaching performance.[56] The success of many innovative teacher education programs is due in large part to the ingredient of providing feedback regarding the teaching act.

Thus, in presenting a rationale for and application of microtraining to improve teaching, Meier notes,

> Perhaps the most dramatic component in the typical microtraining process is the employment of the new medium of videotape recording for optimal and immediate feedback of the training performance.

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[54]Thomas R. Bennet, II, The Leader Looks at the Process of Change, Looking into Leadership Series, No. 5 (Washington, D.C.: Leadership Resources, Inc., 1961), p. 5.

[55]Ibid., p. 6.

[56]Elizabeth Hunter and Edmund Amidon, "Direct Experiences in Teacher Education: Innovation and Experimentation," Journal of Teacher Education, XVII (Fall, 1966), 284.

It also has application for exploration into the development and assessment of self-concept.[57] As a result of the impact of the new media, a "teacher trainee can expect, and even demand, more meaningful and objective feedback from his supervisor."[58]

In discussing simulation applications in teacher education, Twelker concludes that classroom simulation technique essentially trains student teachers in "(1) cue discrimination, (2) decision making, and (3) modifying behavior on the basis of feedback." The student teacher has thus become sensitive to and gains valuable experience in processing feedback from his class.[59]

Students in a teaching methods course used video tape equipment while they taught twelve-minute concepts to some fifth and sixth graders. After each teaching situation was televised, it was reviewed and critiqued during subsequent class sessions. The videotape was thus instrumental in providing feedback to the 'teachers,' and

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[57]John H. Meier, "Rationale for and Application of Microtraining to Improve Teaching," Journal of Teacher Education, XIX (Summer, 1968), 148.

[58]Ibid., p. 147.

[59]Paul A. Twelker, "Simulation Applications in Teacher Education," Journal of Teacher Education, XVII (Fall, 1966), 388.

along with other media it has gained a foothold in helping students learn to teach.[60]

Video-recordings and kinescopes were the means of self-appraisal in a Hunter College Research.[61] Closed circuit television, kinescopes, and television recordings, too, have been reported as contributing to the improvement of teaching by providing raw data for the analysis of classroom behavior (of both students and teachers),[62] making observation possible and for self-evaluation,[63] and improving beginning teachers' ability to observe pupil performance.[64] "There is no doubt that kinescopes or video tapes of classrooms in action can provide a suitable record for developing objective measures of teacher and pupil behavior."[65]

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[60]John H. Eaton, "Video Tape Helps Students Learn to Teach," Educational Leadership, 26 (December, 1968), 299-301.

[61]Herbert Schueler and Milton J. Gold, "Video Recordings of Student Teachers--A Report of the Hunter College Research Project Evaluating the Use of Kinescopes in Preparing Student Teachers," Journal of Teacher Education, XV (December, 1964), 358-364.

[62]Harold W. Peterson, "To Look and Look Again," Journal of Teacher Education, XVIII (Summer, 1967), 206-210.

[63]Hazel S. Rench, "Observing Teaching via Closed Circuit Television," Journal of Teacher Education, XII (March, 1961), 39-42.

[64]Rita B. Johnson, "The Effects of Prompting, Practice, and Feedback in Programmed Videotape," American Educational Research Journal, 5 (January, 1968), 73-79.

[65]Meier, op. cit., p. 147.

Other instructional models, such as microteaching or mini-course, show promise as tools for developing specific teacher skills and behavior patterns[66,67,68,69,70] and in all these models of instruction feedback is at least a major contributing factor for its success.

These studies therefore suggest that the key to helping teachers change their teaching behavior may lie in letting them see their own behavior.

In a study by Trimmer, secondary education graduate student teachers, at the end of their student teaching, were asked to assess their cooperating teachers. On the basis of the evidence collected, it was concluded, that the student teachers are anxious to know their own deficiences regarding their classroom performance, that is, they want feedback concerning their teaching behavior.[71]

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[66]Walter R. Borg, Warren Kallenback, Merva Morris, and Allen Friebel, "Videotape Feedback and Microteaching in a Teacher Training Model," Journal of Experimental Education, 37 (Summer, 1969), 9-16.

[67]Judith M. Bloom, "Videotape and the Vitalization of Teaching," Journal of Teacher Education, XX (Fall, 1969), 311-315.

[68]Dwight W. Allen, "A New Design for Teacher Education: The Teacher Intern Program at Stanford University," Journal of Teacher Education, XVII (Fall, 1966), 296-300.

[69]Jimmie C. Fortune, James M. Cooper, and Dwight W. Allen, "The Stanford Summer Micro-Teaching Clinic, 1965," Journal of Teacher Education, XVIII (Winter, 1967), 389-393.

[70]Fred S. Rosenau, "How to cut 'Teacher-Talk' in Half," Educational Leadership, 26 (October, 1968), 93-95.

[71]Russell L. Trimmer, "Student Teachers Talk Back," Journal of Teacher Education, XI (December, 1960), 537-538.

Johnson reported a study with four groups of beginning teachers. Group I viewed an instructional videotape and followed along in the programmed booklet, which provided intermittent prompts, practice and feedback, and overall instructions. Group II viewed the same videotape and was provided with the same general instructions, but was not provided with any prompting, practice or feedback. Instead, the group was instructed to view the scene and think about it and write down any thoughts that occurred. Group III saw no videotape but listened to a recording of a lecture on how to be a skillful observer of intended pupil behavior. Group IV received no experimental treatment but were shown production techniques for making overhead projection materials instead. It was found that the "viewer's performace is significantly increased when the scenes are accompanied by a program that provides intermittent prompting, overt practice, and immediate knowledge of results," that is, Group I did better than any other group. Group II responded either to wrong behavior, such as focussing on teacher rather than pupil behavior, or responded inappropriately, such as judging rather than describing an event. It was suggested that a viewer's response is not adequately controlled during the observational process unless the "viewer is simultaneously: (1) cued in as to what to focus upon, (2)

given opportunity to report his observation, (3) given some corrective feedback as to the accuracy of his reports."[72]

In Ishler's study, the Experimental Group of student teachers were provided with feedback concerning their verbal behavior and the kind of classroom climate they created as a result of it, as measured by the Withall Social-Emotional Climate Index. The Control Group did not receive this feedback treatment. Though both the Experimental and Control Groups experienced a significant change in verbal behavior during the student teaching period, the former change was more significant and the student teachers' verbal behavior was more learner-centered than that of the latter group.[73]

Shaplin writes,

> Teaching is behavior, and as behavior is subject to analysis, change, and improvement. The purpose of practice, as with all aspects of the training of teachers, is to take the novice where he is at the moment and work toward improved teacher behavior.

The assumption is made that "practice conditions provide the kind of analysis of teaching which will enable the teacher to learn to control his behavior."[74]

[72]Johnson, op. cit.

[73]Richard Eves Ishler, "An Experimental Study Using Withalls' Social-Emotional Climate Index to Determine the Effectiveness of Feedback as a Means of Changing Student Teachers' Verbal Behavior," The Journal of Educational Research, 61 (November, 1967), 121-123.

[74]Judson T. Shaplin, "Practice in Teaching," Harvard Educational Review, 31 (Winter, 1961), 34.

Pupil Feedback

If teaching is viewed as an interactive process, classroom activity, involving teacher and pupils, has an important effect and pupil characteristics must be considered.[75]

> An adequate design for the investigation of classroom teaching and learning phenomena must include provision for the characteristics, behaviors, and perceptions of the pupils in relation to the teacher.[76]

In Tuckman and Oliver's study on the effectiveness of feedback to teachers as a function of source, feedback from pupils only (as compared to feedback from supervisors alone or in conjunction with pupils, or no feedback at all) led to positive change among teachers, with the less experienced teachers showing greater receptivity to pupil feedback than their more experienced counterparts.[77]

Gage and others investigated the effect of providing sixth grade teachers with information about how their pupils describe the behavior of their actual and ideal teachers. The information was obtained by having pupils

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[75] N. L. Gage, Philip J. Runkel, and B. B. Chatterjee, Equilibrium Theory and Behavior Change: An Experiment in Feedback from Pupils to Teachers (Urbana, Illinois: Bureau of Educational Research, College of Education, University of Illinois, 1960), p. 3.

[76] Ibid., p. 4.

[77] Bruce W. Tuckman and Wilmont F. Oliver, "Effectiveness of Feedback to Teachers as a Function of Source," Journal of Educational Psychology, 59 (August, 1968), 297-301.

respond to a 12-item form rating teacher behavior. The experimental group of teachers alone was provided with feedback of their pupils' opinions concerning the behavior of their actual and ideal teacher. A month or two later all teachers were again described by their pupils on the rating forms. The amount of teacher behavior change was measured by a comparison of pupil description variation of their teachers between the pre- and post-test. Correlation between the teacher's self-description and their pupils' description of them and the accuracy of the teacher's perception of the typical pupil's response of their actual teacher was also studied by allowing the teachers to respond to a questionnaire, which essentially provided data for the teacher's perception of herself and the teacher's perception of how her pupils perceived her. The findings of the study indicate that the

> ...feedback not only produced change in behavior; it also produced corresponding changes in the accuracy of teachers' perceptions of their pupils' perceptions of their teacher, and in the similarity of teachers' self-descriptions to their pupils' descriptions of the teacher.

Teachers who received pupil feedback changed in the direction of pupils' ideals, as described by pupils.[78]

There is divided opinion regarding the use of student ratings of teachers. Are pupils competent to

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[78]Gage, Runkel, and Chatterjee, op. cit.

judge the effectiveness of teaching? This question essentially inquires about the reliability and validity of student ratings, but since "it is student judgment that constitute the criterion, reliability and validity are in this case synonymous."[79]

In support of pupil ratings of teachers, Savage presents the "strategic position of the pupil for evaluating the teacher effectiveness and the fact that pupils have day-to-day contacts with teachers."[80] Moreover, pupil

> ...evaluations offer the advantages of being based on a much more comprehensive sample of observed behavior, as well as those to be gained by averaging over the idiosyncratic biases of a large number of judges.[81]

Since about 1927, much research has been done with the Purdue Rating Scale for Instructors and its revised form, The Purdue Rating Scale for Instruction. The research has shown that "student evaluation is a useful, convenient, reliable, and valid means of self-supervision

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[79]H. H. Remmers, "Reliability and Halo Effect of High School and College Students' Judgments of their Teachers," Journal of Applied Psychology, 18 (1934), 630.

[80]Marjorie L. Savage, "Pupil Ratings Used in Student Teaching," American Vocational Journal, 37 (January, 1962), 20.

[81]Donald J. Veldman and Robert F. Peck, "Influences on Pupil Evaluations of Student Teachers," Journal of Educational Psychology, 60 (April, 1969), 103-108.

and self-improvement for the teacher."[82] The combined findings show: (1) "If twenty-five or more student ratings are averaged, they are as reliable as the better educational and mental tests at present available."[83] (2) Little if any relationship exists between the student's judgments of his instructor and the student's grades,[84] or the difficulty of the course,[85] or the sex of the student raters.[86] (3) Students discriminate reliably among different aspects of the teacher's personality and of the course."[87] (4) "The cost in time and money of

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[82]H. H. Remmers, "Rating Methods in Research on Teaching," Handbook of Research on Teaching, ed. N. L. Gage (Chicago: Rand McNally and Company, 1963), p. 367.

[83]H. H. Remmers, Manual, the Purdue Rating Scale for Instruction (West Lafayette, Ind.: University Book Store, 1960), cited by Remmers, ibid.

[84]H. H. Remmers, "To What Extent do Grades Influence Student Ratings of Instructors?," The Journal of Educational Research, 21 (April, 1930), 314-316.

[85]H. H. Remmers, "The Relationship Between Students' Marks and Student Attitude Toward Instructors," School and Society, 28 (December, 1928), 759-760.

[86]H. H. Remmers, "The College Professor as the Student Sees Him," Purdue University Stud. Higher Educ., 1929, No. 29, 75, cited by H. H. Remmers, "Rating Methods in Research on Teaching," Handbook of Research on Teaching, ed. N. L. Gage (Chicago: Rand McNally and Company, 1963), p. 368.

[87]H. H. Remmers,"Reliability and Halo Effect of High School and College Students' Judgments of their Teachers," Journal of Applied Psychology, 18 (1934), 619-630.

obtaining student ratings of teachers is low. In fact, it is considerably lower than the cost of administering a typical standardized educational test of some comprehensiveness."[88]

From data collected regarding traits, characteristics, habits, and practices of their teachers by their pupils, Tiedeman concludes that

> ...pupils are fairly consistent and reliable in their judgment of teacher characteristics as far as their personal likes and dislikes are concerned, and a particular teacher behaviorism or characteristic which is distasteful to one pupil is very apt to be distasteful to most other pupils.[89]

Cogan also studied the trait differences among teachers as perceived by their pupils and found that

> ...whereas an individual pupil tends to perceive different teachers differentially, the group seemed to be in substantial agreement about the behaviors of the same teacher and about the work done for the teacher.[90]

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[88]H. H. Remmers, Manual, the Purdue Rating Scale for Instruction (West Lafayette, Ind.: University Book Store, 1960), cited by Remmers, "Rating Methods in Research on Teaching," Handbook of Research on Teaching, ed. N. L. Gage (Chicago: Rand McNally and Company, 1963), p. 368.

[89]Stuart C. Tiedeman, "A Study of Pupil-Teacher Relationship," The Journal of Educational Research, 35 (May, 1942), 657-664.

[90]Morris L. Cogan, "Theory and Design of a Study of Teacher-Pupil Interaction," Harvard Educational Review, 26 (1956), 315-342.

In a study on pupil ratings of student teachers, Bowman concluded:

> (1) The morale of the pupils is improved by the opportunity to rate their teachers; (2) Student-teachers welcome pupil ratings as a means of growth; and (3) The fact that student-teachers know in advance that they are to be rated by their pupils appears to stimulate the student-teacher to do good work rather than 'play to the galleries.'[91]

Reliable ratings of teacher by competent adults may be a good measure of teacher merit, but such ratings would not be valid ad a measure of pupil opinion as the ratings of the pupils themselves. In the ratings of Bryan's study, pupils agree that they like a teacher and adults say that pupils do not like the teacher. It would be foolish to conclude that the opinion of the adult judges is right and that the opinion of the pupils is wrong.[92]

If it is assumed that reliable pupil ratings of teachers are a valid measure of pupil opinion, the relevant question is: How important are reliable pupil ratings?

Wilson held that student ratings might be merely "taken purely as an accumulation of opinion without raising any question of how valid that opinion may be. The views of the student may be prejudiced, mistaken,

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[91]Earl C. Bowman, "Pupil Ratings of Student-Teachers," Educational Administration and Supervision, 20 (February, 1934), 141-146.

[92]Roy C. Bryan, Pupil Ratings of Secondary School Teachers (New York City: Bureau of Publications, Teachers College, Columbia University, 1937), p. 38.

superficial, immature, but, whatever, their validity, they exist and exert a powerful influence on the effectiveness of the course." Therefore, "to be fully effective, a teacher must be fully informed of the responses of his class."[93]

The feelings a student possesses are facts as real as life and impossible to ignore.[94] These feelings about his peers, his teacher and his studies are "one of the major factors determining how much he will benefit from his classroom experiences."[95]

The use of descriptions of teacher behavior obtained from pupils "develops from an obvious argument which has face validity: Since it is the pupil who is doing the learning, his image of the teacher is the important image."[96]

To the extent that one recognizes the certain weaknesses in the use of pupil ratings, and take certain

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[93]William R. Wilson, "Students Rating Teachers," Journal of Higher Education, 3 (February, 1932), 79.

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

[95]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. 9.

[96]Fletcher G. Watson, "Research on Teaching Science," Handbook of Research on Teaching, ed. N. L. Gage (Chicago: Rand McNally and Company, 1963), p. 1037.

precautions, it cannot be denied that pupil ratings are valuable as a means of improving instruction. It is undoubtedly true that the adolescents' first judgments may be biased, but "the opinions of an entire group of pupils, regardless of their 'objective validity,' can have educational significance and reliability," and in this sense pupil ratings are valide.[97]

Instrumentation

The following systematic observational techniques were explored and considered by the researcher as a potential tool for measuring teacher classroom verbal behavior:

1. Amidon (Modified Category System)[98]
2. Amidon-Hunter (Verbal Interaction Category System)[99]

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[97]Marjorie L. Savage, "Pupil Ratings Used in Student Teaching," American Vocational Journal, 37 (January, 1962), 20.

[98]Edmund J. Amidon, "Modified Category System," Mirrors for Behavior II: An Anthology of Observation Instruments, Volume A, Classroom Interaction Newsletter, ed. Anita Simon and E. Gil Boyer (Philadelphia, Pennsylvania: Research for Better Schools, Inc., 1970).

[99]Edmund Amidon and Elizabeth Hunter, "Verbal Interaction in the Classroom. The Verbal Interaction Category System," Interaction Analysis: Theory, Research, and Application, eds. Edmund J. Amidon and John B. Hough (Reading, Massachusetts: Addison-Wesley Publishing Company, Inc., 1967), pp. 141-149.

3. Flanders (System of Interaction Analysis)[100]

4. Joyce[101]

5. Withall[102]

In the Flanders system of Interaction Analysis (FSIA) there are ten categories, of which seven are assigned to teacher talk, two to student talk, and one to silence, confusion, or pauses (that is, time spent in behavior other than teacher or student talk or periods of confusion in which communication cannot be understood by the observer). Four of the observation categories assigned to teacher talk constitute 'indirect influence,' and they are: (1) accepts feelings, (2) praises or encourages, (3) accepts or uses ideas of students, and (4) asks questions. The other three teacher talk categories, namely, (5) lecturing, (6) giving directions, and (7) criticizing or justifying authority, represents 'direct influence.' Student talk is divided into two categories: (8) responding to teacher, and (9) initiating talk. All

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[100]Ned A. Flanders, Interaction Analysis in the Classroom: A Manual for Observers (Ann Arbor, Michigan: School of Education, The University of Michigan, January, 1964).

[101]Bruce R. Joyce and Richard E. Hodges, "Instructional Flexibility Training," Journal of Teacher Education, XVII (Winter, 1966), 409-416.

[102]John Withall, "The Development of a Technique for the Measurement of Social-Emotional Climate in Classrooms," Journal of Experimental Education, 17 (1949), 347-361.

the categories are mutually exclusive, yet totally inclusive of all verbal interaction occurring in the classroom.[103]

The Verbal Interaction Category System (VICS) is an expanded version of the FSIA, and contains five major categories for analyzing classroom verbal behavior. They are: (1) Teacher-initiated talk, (II) Teacher response, (III) Pupil response, (IV) Pupil-initiated talk, (V) Other. Teacher-initiated talk is divided into four categories: (1) Presents information or opinion, (2) Gives direction, (3) Asks narrow question, (4) Asks broad questions. Teacher-response talk has two major divisions, acceptance and rejection, which are further subdivided into: (5a) Accepts ideas, (5b) Accepts behavior, (5c) Accepts feelings, (6a) Rejects ideas, (6b) Rejects behavior, (6c) Rejects feelings. Student-response talk is divided into response to teacher and response to another pupil: (7a) Responds to teacher predictably (this ordinarily follows category 2 or 3), (7b) Responds to teacher unpredictably (this usually follows category 4, but it may follow category 3 sometimes), (8) Responds to another pupil. Pupil-initiated talk consists of (9) Initiates talk to teacher, and (10) Initiates talk to another pupil. 'Other' consists of (11) Silence and (Z) Confusion.

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[103]Flanders, loc. cit.

Perhaps the primary difference between the VICS and the FSIA is the absence of the dimensions of 'direct and indirect teacher influence' in the former system. The FSIA does not differentiate the type of teacher question, while the VICS allows for "narrow" teacher questions, which usually elicit predictable responses, and "broad" teacher questions, which is usually followed by unpredictable responses. The dimensions of predictable and unpredictable pupil responses are new to the VICS only. The VICS separates the categories of silence and confusion, and encourages the recorder to use the confusion category simultaneously with other categories when the interaction in the classroom can still be followed despite disruption of order.[104] The VICS provides not only for the teacher accepting or rejecting the ideas and feelings of the pupils but also for accepting and rejecting the pupils' nonverbal behavior.

> The separation of acceptance and rejection into three dimensions (ideas, feelings, and behaviors) allows for analysis of such subtle differences in teacher styles as that of a teacher skillful enough to accept a child's feelings at the same time as criticizing his ideas thus correcting him on the cognitive level on one hand and accepting him on the emotional or affective level on the other.[105]

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[104] Amidon and Hunter, loc. cit.

[105] Edmund J. Amidon and Elizabeth Hunter, "Verbal Interaction Category System (VICS)," Mirrors for Behavior II, An Anthology of Observation Instruments, Vol. A. Classroom Interaction Newsletter, eds. Anita Simon and E. Gil Boyer (Philadelphia, Pennsylvania: Research for Better Schools, Inc., 1970).

The Modified Category System (MCS) is "an attempt to build a category system simple enough to be used 'live' by an observer in a classroom, but incorporating affective and cognitive dimensions from other systems in the Flanders System base." Categories 2 and 7 (praise and criticism in the FSIA, respectively) has been enlarged to include categories from the Hughes-Miller System, and the MCS has, therefore, (2a) Praises, (2b) Praises using Public criteria, (2c) Praises using Private criteria, (7a) Criticizes, (7b) Criticizes using Public criteria, (7c) Criticizes using Private criteria. Category 3 has been expanded to (3a) Accepts ideas through description, (3b) Accepts ideas through inference, (3c) Accepts ideas through generalization. The expansion into the three dimensions of description, inference, and generalization from the Taba system has also been worked into categories 8 and 9. Category 4 (questions in the FSIA) has been enlarged to include four categories from the Aschner-Gallagher system: (4a) Asks cognitive memory question, (4b) Asks convergent question, (4c) Asks divergent question, (4d) Asks evaluative question.[106]

The Joyce System utilizes four major categories of teacher interaction (each of which is further

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[106]Edmund J. Amidon, "Modified Category System (MCS)," Mirrors for Behavior II, An Anthology of Observation Instruments, Volume A, Classroom Interaction Newsletter, eds. Simon and Boyer, ibid.

subdivided): (1) Sanctions--verbal communications which have a rewarding or punishing effect on the child. The sub-categories refer to the kind of student behavior which is rewarded or punished. (2) Handling information--verbal communications in which the teacher is handling information or affecting the way the child will handle information in the course of a lesson. Three of the sub-categories refer to attempts by the teacher to cause children to handle information, the last two refer to direct informational communication by the teacher. (3) Procedural Communications are those which result in the establishment of classroom procedure or of standards of performance. The sub-categories are divided so that the critical element is whether the teacher is sharing the determination of procedures or standards with the students or determining it by herself. (4) Maintenance Communications--These are communications which maintain the physical or social system but which are not directly related to the substance of particular lesson. Each sub-category denotes a particular kind of maintenance activity employed by the teacher.[107, 108]

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[107]Bruce R. Joyce and Richard E. Hodges, "Instructional Flexibility Training," Journal of Teacher Education, XVII (May, 1966), 409-416.

[108]Bruce Joyce, "Categories for the Joyce System," Mirrors for Behavior II, An Anthology of Observation Instruments, Vol. A. Classroom Interaction Newsletter, eds. Simon and Boyer, op. cit.

The Withall's Social-Emotional Climate Index has seven categories which seem to encompass all the types of statements teachers utilize in the classroom. They are: (1) Learner-supportive statements or questions that have the intent of reassuring or commending the pupil. (2) Acceptant or clarifying statements or questions having the intent to convey to the pupil the feeling that he was understood and help him elucidate his ideas and feelings. (3) Problem-structuring statements or questions which offer information or raise questions about the problem in an objective manner with intent to facilitate learner's problem-solving. (4) Neutral statements which may include polite formalities, administrative comments, verbatim repetition of something said, etc., all with no intent inferable. (5) Directive statements or questions with intent to have pupil follow a recommended course of action. (6) Reproving, disapproving or disparaging statements or questions to deter pupil from continued indulgence in present "unacceptable" behavior. (7) Teacher-supportive statements or questions intended to sustain or justify the teacher's position or course of action. Categories 1, 2, and 3 are said to be learner-centered and categories 5, 6, and 7 teacher-centered. The neutral category has no influence on either bloc.[109,110]

[109]John Withall, "The Development of a Technique for the Measurement of Social-Emotional Climate in Classrooms," Journal of Experimental Education, 17 (March, 1949), 347-361.

A comparison of the five systematic observational techniques shows the Flanders System of Interaction Analysis to be the simplest; this is one of the critical reasons for selection since it will be untrained pupils (Grades 7 - 12), who will be completing the questionnaire utilizing the FSIA ten categories. Also, the ten categories are mutually exclusive, yet totally inclusive of all verbal interaction occuring in the classroom.[111]

The choice of selection fell on the FSIA also for the following reasons:

1. It provides "an articulated system of cognitive organizers, and a means for obtaining reliable data." These two features allow the classroom teacher to

> ...acquire reliable and meaningful data which can subsequently be analyzed to provide feedback concerning the quality of the teaching performance, and improve future teaching performance by means of suitable modification and revision.[112]

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[110]John Withall, "Categories for Social-Emotional Climate Index," Mirrors for Behavior II, Anthology of Observation Instruments, Vol. A, Classroom Interaction Newsletter, eds. Simon and Boyer, op. cit.

[111]Edmund Amidon and Ned Flanders, "Interaction Analysis as a Feedback System," Interaction Analysis: Theory, Research and Application, eds. Edmund J. Amidon and John B. Hough (Reading, Massachusetts: Addison-Wesley Publishing Company, 1967), p. 122.

[112]Richard L. Ober, "The Nature of Interaction Analysis," High School Journal, 51 (October, 1967), 12.

2. "Too often an observer's preconceptions of what he thinks should happen creates a screen through which the perceptions of some behaviors can pass and are noticed and other behaviors cannot pass and are ignored." These difficulties can be minimized when the FSIA is used.[113]

3. The success of inservice teacher programs and student teaching programs in which interaction analysis were taught.[114,115] The FSIA has been used in

> ...a variety of teacher training activities to provide teachers with a means of obtaining feedback about their own teaching behaviors and the effects of those behaviors on the quantity and quality of student participation in their classrooms.[116]

In the FSIA all teacher statements are classified as either direct or indirect, thereby focusing on the amount of freedom a teacher permits his students. Indirect influence promotes student participation and increases his

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[113] Ned A. Flanders, Interaction Analysis in the Classroom: A Manual for Observers (Ann Arbor, Michigan: School of Education, The University of Michigan, January, 1964), p. 1.

[114] Ned A. Flanders, "Using Interaction Analysis in the Inservice Training of Teachers," Journal of Experimental Education, 30 (June, 1962), 313-316.

[115] Ned A. Flanders, "Intent, Action and Feedback: A Preparation for Teaching," Journal of Teacher Education, XIV (September, 1963), 251-260.

[116] Ned A. Flanders, "Flanders System of Interaction Analysis (FSIA)," Mirrors for Behavior II, An Anthology of Observation Instruments, Vol. A., eds. Simon and Boyer, op. cit.

freedom of action. Direct influence maximizes the active control of the teacher and causes conformity and compliance. By increasing teacher participation and establishing restraints to student behavior, compliance to the teacher results. "Of and by itself, neither direct nor indirect influence can be considered bad or good. Each type of influence has its place in the classroom."

The division of student talk into categories eight and nine provides an automatic check on freedom of student action within the system of categories. Direct teacher influence is usually, though not always, accompanied by less student talk, which is usually in response to the teacher (category eight). A more indirect teacher influence is usually associated with increased student talk, which is usually of the self-initiated type (category nine). The use of only two categories to record all kinds of student talk neglects a great deal of information, but "the major purpose of these categories is the analysis of teacher influence," which is appropriate for the purposes of the present study.

The function of category ten is to record pauses, silences, and periods of confusion of short duration (not longer than two minutes) as they occur during classroom interaction. It becomes an "inappropriate tool when the vergal communication is discontinuous, separated by fairly long periods of silence, when one person is engaged in

prolonged lecturing, or is reading aloud to the class, that is, situations in which two-way communication does not exist."[117]

Flanders reported a significant relationship between classes which scored high in achievement and favorable in attitudes and the use of indirect influence by the teacher. Teachers who were more direct in their teaching had classes which held the least favorable attitudes and scored lowest in achievement. The teachers whose students achieved the most used flexible patterns, using more indirect influence during the initial stages of a unit and becoming more direct toward the end of the unit.[118]

A study on the measures of geometry achievement indicate that dependent-prone students learned more when the teacher was indirect, that is, gave fewer directions, less criticism, and less lecturing, but more praise, and asked more questions which increased their verbal participation, than when taught by a direct teacher. Compared to

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[117]Ned A. Flanders, Interaction Analysis in the Classroom: A Manual for Observers (Ann Arbor, Michigan: School of Education, The University of Michigan, January, 1964).

[118]Ned A. Flanders, "Some Relationships Among Teacher Influence, Pupil Attitudes and Achievement," Interaction Analysis: Theory, Research, and Application, eds. Edmund J. Amidon and John B. Hough (Reading, Massachusetts: Addison-Wesley Publishing Company, 1967), pp. 217-242.

students in general, the dependent-prone students were, interestingly, more sensitive to teacher influence patterns.[119]

Indirect teaching was shown by Soar to promote greater pupil gain in vocabulary than direct, and the combination of indirect teaching and low hostility produced the greatest gain of all.[120]

Teachers rated as "superior" by their supervisors and administrators used indirect influence more than did the average group of teachers. In comparison to the average teacher, the superior teacher accepted and encouraged student-initiated ideas more, used direction-giving and criticism less, and asked broader questions, and had more questions asked of them by their students.[121]

Flanders, among others, suggests that it might also be advantageous to teach interaction analysis to student teachers, thereby developing its use not only in research but also as a tool in teacher education.[122]

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[119]Edmund Amidon and Ned A. Flanders, "The Effects of Direct and Indirect Teacher Influence on Dependent-Prone Students Learning Geometry," Journal of Educational Psychology, 52 (March, 1961), 286-291.

[120]Robert S. Soar, "Pupil Needs and Teacher-Pupil Relationships: Experience needed for Comprehending Reading" (paper read at the annual meeting of the International Reading Association, May, 1965, Detroit, Michigan).

[121]Edmund Amidon and Michael Giammateo, "The Verbal Behavior of Superior Teachers," Elementary School Journal, 65 (February, 1965), 283-285.

[122]Ned A. Flanders, "Intent, Action, and Feedback: A Preparation for Teaching," Journal of Teacher Education, XIV (September, 1963), 251-260.

Moskowitz reported that cooperating teachers were more indirect if they were trained in interaction analysis. Also, student teachers tend to use teaching patterns similar to those of their cooperating teachers, except when the student teachers were trained in interaction analysis and the cooperating teachers were not, in which case the student teachers were more indirect than their cooperating teachers. The attitudes of the cooperating teachers toward teaching and toward their student teachers were most positive when both had interaction analysis training, but these attitudes decreased successively with decreased contact of the cooperating teachers with interaction analysis. The attitudes of student teachers were significantly more positive toward cooperating teachers who received training in interaction analysis, whether or not the student teachers had received this training themselves.[123]

In Furst's study, the actual, overt teaching behavior of English and Social Studies student teachers, trained in interaction analysis before their final student teaching or at the same time that they were student teaching, was compared with student teachers who had been more conventionally trained. The classroom behavior of all

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[123]Gertrude Moskowitz, "The Attitudes and Teaching Patterns of Cooperating Teachers and Student Teachers Trained in Interaction Analysis," Interaction Analysis: Theory, Research, and Application, eds. Amidon and Hough, op. cit., pp. 271-282.

these student teachers was actually observed by a trained observer using the Verbal Interaction Category System (VICS). None of the student teachers who had been or were being trained in Flanders' interaction analysis were required or even necessarily encouraged by the college supervisors to use the technique. From the results of the study, the student teachers taught interaction analysis (irrespective of the timing of the training) do differ significantly from the control group who had no such training in their use of more total teacher acceptance behavior and less use of rejecting teaching behaviors, and they had more student talk in their classes. However, students trained in interaction analysis before student teaching were more "aware" of what they were doing than those student teachers not so trained, although student teachers trained during student teaching have more total student talk and more pupil response talk than those student teachers who are trained before student teaching or not trained at all.[124]

Kirk studied the effects of a knowledge of interaction analysis upon student teachers' tendency to alter elements of teaching style common to elementary school

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[124]Norma Furst, "The Effects of Training in Interaction Analysis on the Behavior of Student Teachers in Secondary Schools" (paper read at the Annual Meeting of the American Education Research Association, February, 1965, Chicago, Illinois).

student teachers. The Experimental group had approximately five hours of seminar time and six individual conferences immediately after the college supervisor's weekly visits. These conferences utilized the tally sheet of the lesson just observed, and the student teachers were taught to notate, construct, and interpret the records presented by interaction analysis. Knowledge of interaction analysis seems to lead toward fuller pupil participation, a decline in teacher talk, or both. The researcher concluded that indirect student teaching appeared to be related to training in interaction analysis.[125]

In a study at Ohio State University, five treatments involving various combinations of methods of teaching human relation skills and the analysis of verbal classroom teaching behavior were used with students in a methods course. During a half-hour simulated lesson, the verbal behaviors of these subjects were measured by observers using a 13-category modification of the Flanders system of interaction analysis. The findings indicated clearly that subjects in the treatment groups taught interaction analysis were found to use, in their teaching simulations, significantly more verbal behaviors that have been found

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[125]Jeffery Kirk, "Elementary School Student Teachers and Interaction Analysis," Interaction Analysis: Theory, Research, and Application, eds. Amidon and Hough, op. cit., pp. 299-306.

to be associated with higher student achievement and more positive student attitudes toward their teachers and school, and significantly less behaviors that have been found to be associated with lower achievement and less positive attitude.[126]

This study was continued by following the student teachers who had been trained in interaction analysis prior to student teaching and other student teachers who have not been so trained, into their student teaching experience, four to twelve months later. The findings indicated that the student teachers taught interaction analysis before used more indirect teacher verbal behavior and less direct verbal teacher behavior during student teaching, and there was also more student-initiated talk in their classes. In addition, the same differences obtained in the parent study were found to exist in a selected representative sample who was followed into their student teaching experience.[127, 128]

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[126]John B. Hough and Richard Ober, "The Effect of Training in Interaction Analysis on the Verbal Teaching Behavior of Pre-Service Teachers" (paper read at the annual meeting of the American Educational Research Association, February, 1966, Chicago, Illinois).

[127]Ernest E. Lohman, Richard Ober, and John B. Hough, "A Study of the Effect of Pre-Service Training in Interaction Analysis on the Verbal Behavior of Student Teachers," Interaction Analysis: Theory, Research, and Application, eds. Amidon and Hough, op. cit., pp. 346-359.

[128]John B. Hough, Ernest E. Lohman, and Richard Ober, "Shaping and Predicting Verbal Teaching Behavior in a General Methods Course," Journal of Teacher Education, XX (1969), 213-224.

In summary, the last two mentioned studies argue that student teachers trained in interaction analysis during the general methods course differed significantly from those not so trained. They used less direct teacher talk, lecturing, directions, and extended direct teacher talk, but more indirect teacher talk, acceptance and clarification of student talk, extended indirect teacher talk, and indirect teacher verbal behavior. Also, there was significantly more student talk and especially more spontaneous student talk in classes taught by student teachers trained in Flanders system of Interaction Analysis.

Effect of Feedback on Student Teachers

Many researchers have attempted to extend the research in teacher education by isolating the variable of feedback and studying its effects on student teachers.

Kirk and Amidon investigated the effect of direct immediate feedback, in the form of examining records of interaction in their own classroom, on the verbal behavior of student teachers. Measures were taken before and after training in interaction analysis for six weeks during student teaching, and they showed certain differences in student teachers' interaction with children. The student teachers, who had training, talked less, gave fewer directions, and asked more questions after pupils'

comments. Pupils of this experimental group of student teachers judge their teachers did "not talk more than pupils," but wanted "us to make our own plans," that is, the pupils felt the student teachers were becoming less direct.[129]

In the Bondi's study, feedback consisting of matrices and information sheets constructed by the observer of the class sessions just observed was presented to the experimental group of student teachers only. Feedback sessions included presentation of computer printouts and information sheets indicating verbal performance to the experimental group weekly and allowing them to compare with previous week's performance. Group discussions focused on the value of feedback the student teachers were receiving, and help was available from the trained observer, observing them that week, to relate verbal performances to types of lessons taught. (The 13-category modification of the Flanders System of interaction analysis was used to classify student teacher behavior.) The control group also had classroom observations, matrices and information sheets, but these were not given them, that is, they had no feedback. They met regularly with

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[129]Jeffery Kirk and Edmund Amidon, "When Student Teachers Study Interaction," Elementary School Journal, 68 (November, 1967), 97-104.

the researcher to discuss observation schedules and student teaching experiences. All subjects received fourteen hours of formal training in interaction analysis from the researcher including training in analyzing classroom verbal behavior and in building and interpreting matrices.

The results of the study show that student teachers who received interaction analysis feedback differed significantly from those student teachers who did not receive such feedback in their use of more praise, acceptance and clarification of student ideas, indirect teacher talk as opposed to direct teacher talk, extended praise, extended use of student ideas, positive affective talk, acceptance of student ideas after teacher-initiated student talk, positive reinforcement after teacher-initiated talk, and more questions, but less corrective feedback, criticisms of students, lecturing and directions giving. In addition, there was significantly less teacher-initiated talk and more student-initiated student talk in the experimental group.[130]

The Bondi study is of particular interest to the writer and, in part, provided the impetus for the present study. In the present study, instead of trained observers

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[130]Joseph C. Bondi, Jr., "The Effects of Interaction Analysis Feedback on the Verbal Behavior of Student Teachers," Educational Leadership, 26 (May, 1969), 794-799.

making systematic observation, which is then analyzed and presented as feedback, pupils will provide the observation concerning the student teacher classroom verbal behavior by completing a questionnaire, rating their student teacher. The pupils' responses will be summarized and analyzed by the writer and then returned to the experimental group of student teachers to serve as feedback. The questionnaire used to present pupils' perception of their student teacher behavior is patterned after Flanders' ten categories of interaction analysis. Will pupil feedback to their student teacher concerning the verbal interaction in the class result in change of pupil estimates of the student teacher in selected teacher characteristics?

CHAPTER III

DESIGN OF THE STUDY

Introduction

The study was primarily designed to develop a system for providing organized pupil feedback to student teachers concerning their classroom verbal behavior, as perceived by their pupils, and to determine whether or not such feedback would effect subsequent student teacher change in a number of selected teacher characteristics.

This chapter discusses: (1) the sample, (2) methodology, and (3) statistical hypotheses.

The Sample

Originally, forty-eight student teachers, randomly selected from the total Winter Term, 1971, enrollment of secondary school student teachers at Michigan State University, were chosen as participants in the study. Twenty-four of these student teachers were in the Conventional Student Teaching Program and the other twenty-four in the "Cluster" Student Teaching Program. Twelve student teachers in each program were then randomly assigned to the Experimental Group (which was provided with pupil

feedback concerning their classroom behavior), and the other twelve to the Control Group (which was not provided with pupil feedback).

As the study progressed, a number of student teachers were removed from the sample for one or more of the following reasons:

1. Involvement in an automobile accident,
2. Did not complete the entire span of student teaching, during which data for the study were collected,
3. Incomplete data and/or late receipt of completed questionnaires, resulting in no feedback or feedback that was too late to be effectively utilized by those of the Experimental Group.
4. To facilitate statistical analysis, the size of all groups was equalized and subjects were then randomly eliminated from the groups with the larger number of subjects.

The final sample consisted of thirty-six of the original sample of student teachers, with nine student teachers in each of the four groups as represented below:

Treatment / Program	Experimental (Has pupil feedback treatment)	Control (Has NO pupil feedback treatment)
CONVENTIONAL Student Teaching Program	n = 9	n = 9
"CLUSTER" Student Teaching Program	n = 9	n = 9

In the random selection and assignment of the subjects in this study, no effort was made to match grade level, sex, discipline or any other variable. The assumption was made that all subjects were equal with reference to their teaching experience. The only restriction considered during the random selection was that no two subjects in the Experimental group would be in the same school district. It was judged that this restriction would minimize socialization about participation in the study, and thereby possibly negating the treatment effect variable. In the final evaluation of student teaching, all subjects were rated by their coordinator and supervising teacher or clinical consultant as successful.

Some of the characteristics of the sample in the study are shown in Table 3.1 and Table 3.2.

Methodology

Prior to the onset of the study, a pilot run was made to test the Student-Opinion Questionnaires, Form A and Form B (Appendix A). With the cooperation of the Corunna Junior High and Corunna High School, fifty-seven seventh graders, sixty-three eighth graders, fifty-five ninth and tenth graders, and thirty-five eleventh and twelfth graders reacted to the two questionnaires. From

Table 3.1. Some characteristics of the sample (Experimental Group).

	Student Teacher	Grade level	Subject (Discipline) taught	Sex	Number of participating pupils
"Cluster" Student Teaching Program	1	10	English	Female	24
	2	9	Physical Science	Female	28
	3	8	Home Economics	Female	25
	4	8	Home Economics	Female	22
	5	7	Humanities	Female	23
	6	8	Social Studies	Male	23
	7	8	Mathematics	Female	23
	8	11	English Language	Male	25
	9	9	Algebra	Female	24
Conventional Student Teaching Program	10	10-12	Art	Female	15
	11	11	Physical Education	Female	30
	12	10-12	Physical Education	Female	29
	13	11	American History	Female	28
	14	10-12	German	Female	26
	15	10-12	Home Economics	Female	24
	16	9	English	Female	24
	17	9	Algebra	Male	29
	18	10	English	Female	26

Table 3.2. Some characteristics of the sample (Control Group).

	Student Teacher	Grade level	Subject (Discipline) taught	Sex	Number of participating pupils
"Cluster" Student Teaching Program	19	12	Art	Female	27
	20	9-12	English	Female	16
	21	8	American History	Male	25
	22	10-11	French	Female	21
	23	8	General Science	Female	31
	24	12	History	Female	23
	25	10-12	Algebra	Female	30
	26	9	English	Female	19
	27	7-9	Social Studies, Geography	Male	32
Conventional Student Teaching Program	28	9	Civics	Male	26
	29	8	Algebra	Female	17
	30	11	English	Male	26
	31	10	Biology	Female	26
	32	9-10	General Business	Female	27
	33	12	Family Living	Female	30
	34	10-12	Spanish	Female	14
	35	9	Algebra	Male	30
	36	10-12	World Cultures	Female	24

their comments and suggestions for improvement, both questionnaires were modified to their present form.

The Form A Questionnaire was patterned after Flanders ten categories for Interaction Analysis (Appendix E), and the Form B questionnaire was adapted from a Student-Opinion Questionnaire prepared by the Student Reaction Center, Western Michigan University (Appendix F).

The present study was initiated in the Winter Term, 1971. On the fifth week of student teaching, copies of the Student-Opinion Questionnaire, Form A (Appendix B-1), were given to the Experimental Group of student teachers and their classes to complete. (In most cases, only one class of each student teacher participated, but where the class size was small, two of the student teacher's classes were used.) Prior to the receipt of the questionnaire forms, these student teachers did not know they were selected as participants in the study, and they were never informed that they formed the Experimental Group. Each participating pupil received, in addition to the questionnaire, a letter (Appendix B-2) and directions for completing the questionnaire (Appendix B-3). Each student teacher was provided with a packet similar to the one given their pupils, and each was also sent a letter (Appendix B-4), informing him that his pupils were reacting to the questionnaire. Neither

the student teachers of the Control Group nor their classes received the Form A questionnaire.

On receipt of these completed questionnaire forms the writer summarized the pupils' responses to the first two questions (Appendix C-2) and then analyzed these responses, using in part the Flanders' interpretation of matrices[1] (Appendix C-3). The summary and analysis, together with a letter of explanation (Appendix C-1), were then returned to the respective student teacher to serve as feedback about his classroom verbal behavior, as perceived by his pupils and himself.

Subsequently, the class response to the third question was also summarized (Appendix C-5), and, with more comments and analysis (Appendix C-4), returned to the student teacher.

At about the (last) tenth or eleventh week of student teaching, copies of another Student-Opinion Questionnaire (Form B) (Appendix D-1), were sent to the student teachers and their participating classes of both Experimental and Control Group. (The same class or classes of the student teacher of the Experimental Group who completed Form A also completed Form B.) Only on receipt of these questionnaire forms did the student

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[1]Ned A. Flanders, Interaction Analysis in the Classroom: A Manual for Observers (Ann Arbor, Michigan: School of Education, The University of Michigan, 1963), pp. 19-23.

teachers, of the Control Group, and their participating classes realize they were subjects of the study. Like the Experimental Group, they were not told to which group they were assigned. Each pupil had, beside the questionnaire form, a letter (Appendix B-2) and directions for completing the questionnaire (Appendix D-2). Each student teacher received a packet similar to that of their pupils and a cover letter (Appendix D-3). The student teacher, in the Experimental Group only, had an extra letter asking about his reactions to the study with respect to the feedback (Appendix D-4). The questionnaire, Form B, serves as a 'posttest' in the study.

The time interval between the administration of the first questionnaire (Form A) and the second one (Form B) was only five weeks and, in most cases, after subtracting for time lost between delivery and receipt of all correspondence, student teachers in the Experimental Group had between two and three weeks to effectively utilize their feedback and show change in their classroom. Any student teacher in the Experimental Group, not having an estimated time of more than a week between receipt of feedback and the final administration of the Form B questionniare, was dropped from the sample.

The data collected were transferred to punch cards and submitted for computer analysis using the Finn

program[2] on a Control Data Corporation 3600 Computer. The statistical test used in the study was the univariate analysis of variance (fixed effects model),[3] and the accepted level of significance was arbitrarily set at .025, for each of the two univariate analyses.

In the final analysis of the data, the last mentioned teacher characteristic, "ASSIGNMENTS: How challenging and reasonable are assignments (out of class, required work)?," in Form B was omitted because it was not completed by a number of the subjects, who indicated that it was inappropriate for the subject matter taught (example, physical education, art, and home economics).

Statistical Hypotheses

For the purpose of statistical analysis of the data, the hypotheses were stated in null form, and then each hypothesis was evaluated with respect to the evidence of statistical analysis. To evaluate the effectiveness, if any, of the variables of

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[2]Jeremy D. Finn, "Univariate and Multivariate Analysis of Variance and Covariance: A FORTRAN IV Program," Modified for the Michigan State University CDC 3600 and 6500 Computer Systems by David J. Wright. Occasional Paper No. 9 (Michigan State University, East Lansing: Office of Research Consultation, March, 1970).

[3]William L. Hays, Statistics (New York: Holt, Rhinehart and Winston, 1963).

1. pupil feedback treatment,
2. student teaching program,
3. interaction of pupil feedback treatment and student teaching program effects,

the following null hypotheses were tested.

Hypothesis One

There is no significant difference between the mean scores on selected teacher characteristics of the student teachers receiving pupil feedback treatment (Experimental Group) and the student teachers not receiving pupil feedback treatment (Control Group), as measured by (A) the student teacher's self-evaluation and (B) the pupils' evaluation of their student teacher.

$H_{o_{1A}}: \mu_{T_1V_1} = \mu_{T_2V_1}$

$H_{o_{1B}}: \mu_{T_1V_2} = \mu_{T_2V_2}$

(Legend: subscript T_1 = Treatment (Experimental Group)

T_2 = No treatment (Control Group)

V_1 = Self-evaluation by the student teacher

V_2 = Evaluation of the student teacher by his pupils.)

Hypothesis Two

There is no significant difference between the mean scores on selected teacher characteristics of the student teachers in the Conventional Student Teaching

Program and the student teachers in the "Cluster" Student Teaching Program, as measured by (A) the student teacher's self-evaluation and (B) the pupils' evaluation of their student teacher.

$H_{o_{2A}}: \mu_{P_1V_1} = \mu_{P_2V_1}$

$H_{o_{2B}}: \mu_{P_1V_2} = \mu_{P_2V_2}$

(Legend: subscript P_1 = Conventional Student Teaching Program

P_2 = "Cluster" Student Teaching Program

V_1 = Self-evaluation by the student teacher

V_2 = Evaluation of the student teacher by his pupils.)

Hypothesis Three

There will be no significant interaction of feedback treatment and student teaching program effects, as measured by (A) the student teacher's self-evaluation and (B) the pupils' evaluation of their student teacher.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

The statistical test used in this study is the univariate analysis of variance (fixed effects model),[1] and computation was carried out by the Finn program[2] on a Control Data Corporation 3600 Computer. Two such univariate analyses of variance were computed for each of the two dependent variables of student teacher self-evaluation and pupil-evaluation of their student teacher and the level of significance was arbitrarily set at .025 for each analysis.

The problem of assessing the effect of (1) pupil feedback treatment, (2) student teaching program, and (3) the interaction effects of the variables of pupil feedback treatment and student teaching program was approached by testing three major hypotheses. Each hypothesis will be

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[1] William L. Hays, Statistics (New York: Holt, Rhinehart and Winston, 1963).

[2] Jeremy D. Finn, "Univariate and Multivariate Analysis of Variance and Covariance: A FORTRAN IV Program," Modified for the Michigan State University CDC 3600 and 6500 Computer Systems by David J. Wright. Occasional Paper No. 9 (Michigan State University, East Lansing: Office of Research Consultation, March, 1970).

presented in its null form, and then, evaluated with respect to the evidence, rejected or not rejected.

Treatment Effect

Hypothesis One

$H_{o_{1A}}$: There is no significant difference between the mean scores on selected teacher characteristics of student teachers receiving pupil feedback treatment (Experimental Group) and student teachers not receiving pupil feedback treatment (Control Group), as measured by the student teacher's self-evaluation.

The univariate analysis of variance, on the dependent variable of self-evaluation, (Table 4.1), shows no significant difference, at the .025 level, since p was less than .0924. The null hypothesis was therefore not rejected.

$H_{o_{1B}}$: There is no significant difference between the mean scores on selected teacher characteristics of student teachers receiving pupil feedback treatment (Experimental Group) and student teachers not receiving pupil feedback treatment (Control Group), as measured by the pupils' evaluation of their student teacher.

The univariate analysis of variance, on the dependent variable of pupil-evaluation, (Table 4.2), shows a significant difference since p was less than .0016. The

Table 4.1. Summary data of the univariate analysis of variance on the dependent variable of teacher self-evaluation.

Source	SS	df	MS	F	p less than	Decision (for p < 0.025)
Treatment	0.8659	1	0.8659	3.0107	0.0924	Do not reject $H_{o_{1A}}$
Program	0.3906	1	0.3906	1.3581	0.2525	Do not reject $H_{o_{2A}}$
Treatment X Program	0.0095	1	0.0095	0.0329	0.8573	Do not reject $H_{o_{3A}}$
Error	9.2313	32	0.2876			
Total	10.4973	35				

Table 4.2. Summary data of the univariate analysis of variance on the dependent variable of pupil-evaluation.

Source	SS	df	MS	F	p less than	Decision (for p < 0.025)
Treatment	2.4366	1	2.4366	11.9962	0.0016	Reject $H_{o_{1B}}$
Program	0.1479	1	0.1479	0.7282	0.3999	Do not reject $H_{o_{2B}}$
Treatment X Program	0.1136	1	0.1136	0.5594	0.4600	Do not reject $H_{o_{3B}}$
Error	6.4992	32	0.2031			
Total	9.1973	35				

null hypothesis is thus rejected at the .025 level of significance. An examination of the raw scores (Table 4.4) shows, unexpectedly, that the mean scores of the student teachers receiving pupil feedback treatment were lower than the mean scores of the student teachers not receiving pupil feedback, as evaluated by the pupils.

Program Effect

Hypothesis Two

$H_{o_{2A}}$: There is no significant difference between the mean scores on selected teacher characteristics of the student teachers in the Conventional Student Teaching Program and the student teachers in the "Cluster" Student Teaching Program, as measured by the student teacher's self-evaluation.

The univariate analysis of variance (Table 4.1) presents no significant difference, at the .025 level of significance, since p was less than .2525. The null hypothesis is therefore not rejected.

$H_{o_{2B}}$: There is no significant difference between the mean scores on selected teacher characteristics of the student teachers in the Conventional Student Teaching Program and the student teachers in the "Cluster" Student Teaching Program, as measured by the pupils' evaluation of their student teacher.

Table 4.3. Cell means showing the effect of pupil feedback treatment and student teaching program on the dependent variable of teacher self-evaluation.

Program \ Treatment	Experimental (Has pupil feedback treatment)	Control (Has no pupil feedback treatment)	Program Means
CONVENTIONAL Student Teaching Program	3.2500	3.5926	3.4213
"CLUSTER" Student Teaching Program	3.4907	3.7685	3.6246
TREATMENT MEANS	3.3704	3.6806	

TABLE 4.4. Cell means showing the effect of pupil feedback treatment and student teaching program on the dependent variable of pupil evaluation.

Program \ Treatment	Experimental (Has pupil feedback treatment)	Control (Has no pupil feedback treatment)	Program Means
CONVENTIONAL Student Teaching Program	3.1044	3.7370	3.4207
"CLUSTER" Student Teaching Program	3.3449	3.7529	3.5489
TREATMENT MEANS	3.2246	3.7460	

Table 4.2 shows p to be less than .3999 and this is not significant at the 0.25 level of significance, and the null hypothesis is not rejected.

Table 4.3 and Table 4.4 present the raw mean scores of all groups.

Interaction Effects

Hypothesis Three

$H_{O_{3A}}$: There is no significant interaction of feedback treatment and student teaching program effects, as measured by the student teacher's self-evaluation.

P was found to be less than .8573 (Table 4.1), and at the .025 level of significance, this was not significant and the null hypothesis is not rejected.

$H_{O_{3B}}$: There is no significant interaction of feedback treatment and student teaching program effects, as measured by the pupils' evaluation of their student teacher.

P is less than .4600 (Table 4.2); this is not significant at the .025 level of significance, and the decision is not to reject the null hypothesis.

Since the only significant difference appeared in the mean scores of the student teachers receiving pupil feedback and the student teachers not receiving pupil feedback, as measured by the pupils' evaluation of their student teachers, it is logical then to determine whether this

difference is due to a strong difference contributed by a small number of Form B items or a consistent difference due to every item on the Form B.

Table 4.5 presents the mean pupil evaluation scores for each Form B item in both the Experimental and Control Groups and is graphically shown on Figure 4.1. An examination of the data and the graph shows the mean scores for each and every item in the Experimental Group is consistently lower than that of the Control Group.

An analysis of the principal components of the item correlation matrix (Table 4.6) showed that all twelve items tend to load on one construct or factor, with factor loadings ranging between .81 and .91 with the exception of item 4 (discipline) which has a factor loading of .62. The loadings on the other factors are negligible, except for item 4, which showed a factor loading of .71 on the second construct. Based on these findings it would seem that all items except item 4 load on a single factor (that is, single factor 1). Item 4 is measuring some construct slightly different from the remainder of the items, since it alone loads highly on the second factor and coupled with the fact that it has a lower loading on factor one when compared with the other items. Inspection of the Eigenvectors and Eigenvalues for the principal component analysis (Table 4.7) reveals that the first factor accounts for 73% or the majority of the variation. The writer proposes to call this factor the "general teacher characteristics" factor or dimension.

Table 4.5. Mean pupil evaluation scores for the Experimental and Control Group for Form B items (selected teacher characteristics).

Form B Items (Selected teacher characteristics)	Experimental Group	Control Group
1. Knowledge of subject	3.59	3.94
2. Clarity of Explanation	3.12	3.60
3. Fairness	3.26	3.88
4. Discipline	2.72	3.53
5. Attitude toward students	3.42	4.03
6. Ability to stimulate interest	2.88	3.39
7. Attitude toward subject	3.67	3.94
8. Attitude toward student opinions	3.37	3.84
9. Variety in teaching procedures	2.88	3.47
10. Encouragement of student participation	3.23	3.66
11. Sense of humor	3.25	3.86
12. Planning and preparation	3.30	3.80

Note: A score of 1 is 'below average'
2 is 'average'
3 is 'good'
4 is 'very good'
5 is 'the very best'

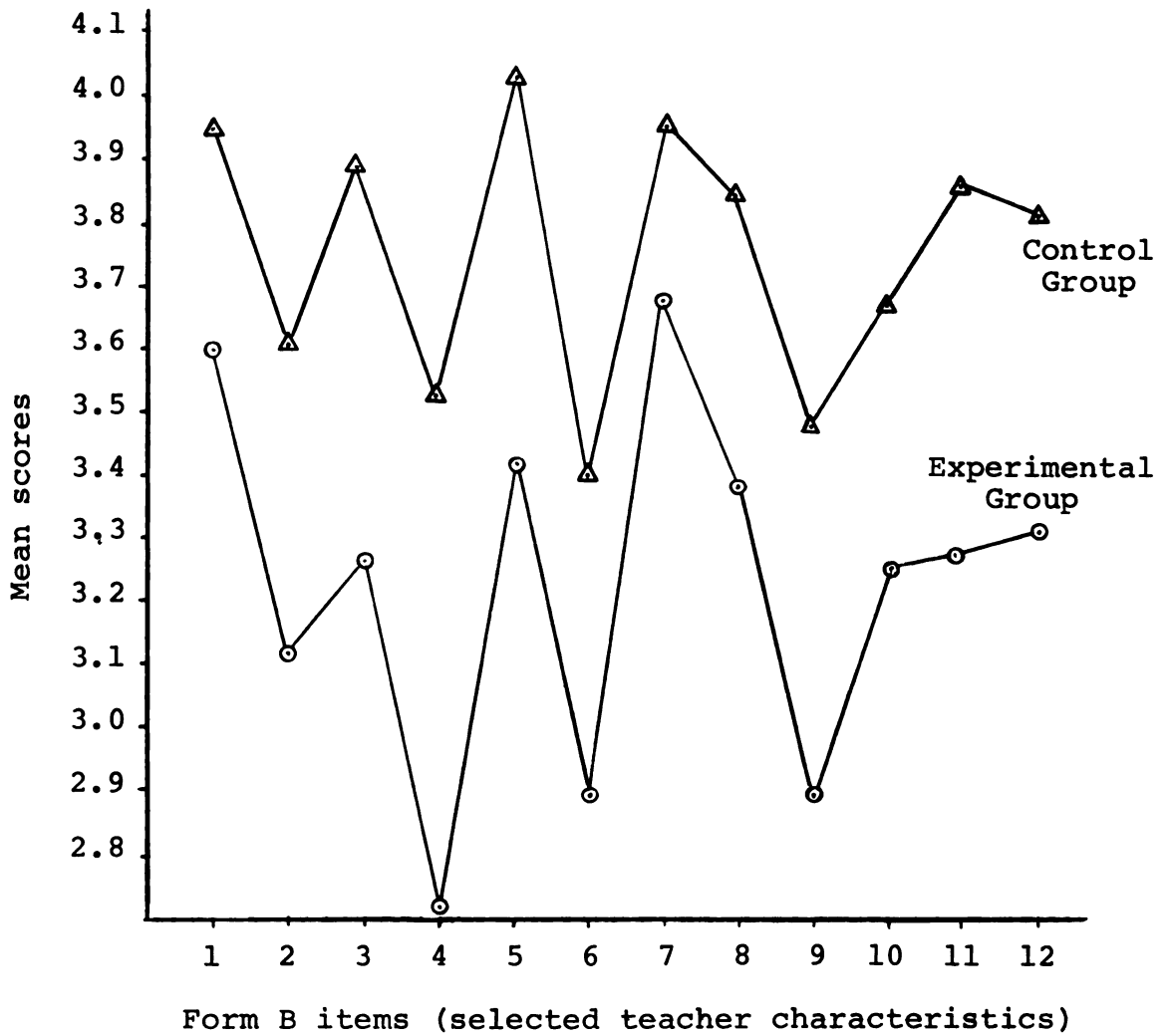

Figure 4.1. Mean scores for the Experimental and Control Group, as measured by the pupils' evaluation of their student teacher, for Form B items (selected teacher characteristics).

Table 4.6. Principal components analysis of item correlation matrix.

Form B Items (Selected teacher characteristics)	FACTORS 1	2	3	4
1. Knowledge of subject	-0.8379	0.1225	0.1582	0.4186
2. Clarity of explanation	-0.8622	-0.0146	0.3848	0.0446
3. Fairness	-0.8923	0.2598	-0.1893	-0.1820
4. Discipline	-0.6240	-0.7055	-0.2431	0.0780
5. Attitude toward students	-0.9012	0.2952	-0.0383	-0.1129
6. Ability to stimulate interest	-0.8910	-0.2811	0.1701	0.0256
7. Attitude toward subject	-0.8515	0.2617	0.0294	0.2771
8. Attitude toward student opinions	-0.8798	0.1911	-0.0885	-0.2341
9. Variety in teaching procedures	-0.8105	-0.2753	0.3299	-0.3250
10. Encouragement of student participation	-0.9079	-0.0373	-0.0866	0.0296
11. Sense of humor	-0.8977	0.0587	-0.1471	-0.1471
12. Planning and preparation	-0.8824	-0.0949	-0.2999	0.1609

Note: Loadings for the other eight factors are negligible (no loadings were greater than 0.3119), and were consequently not recorded in this table.

Table 4.7. Eigenvectors and Eigenvalues for principal component analysis.

Eigenvector	Eigenvalue	Per cent of variation
1	8.8018	73.3482
2	0.9413	7.8442
3	0.5350	4.4585
4	0.5154	4.2949
'	'	'
'	'	'
'	'	'

Note: Eigenvalues and per cent of variation for the remaining eight Eigenvectors have values not greater than 0.3059 and 2.5494, respectively, and are considered negligible and consequently not recorded in this table.

A discriminant function analysis for hypothesis two (Table 4.8) was conducted. Although all the items contribute to the difference between the Experimental and Control Group, as measured by the pupils' evaluation of their student teachers, items 1 (knowledge of subject), 4 (discipline), 6 (ability to stimulate interest), and 7 (attitude toward subject) tend to discriminate between the two groups more than the other items as judged by the standardized discriminant function weights. Taken together these four items do not really identify a particular construct or dimension.

The reliability of the Form B Student-Opinion Questionnaire was calculated using Hoyt's Analysis of

Table 4.8. Discriminant function analysis for hypothesis testing effect of pupil feedback treatment on student teachers on the dependent variable of pupil evaluation.

Form B items (Selected teacher characteristics)		Standardized discriminant function weights
6.	Ability to stimulate interest	1.0473
7.	Attitude toward subject	0.9915
1.	Knowledge of subject	-0.8539
4.	Discipline	-0.8086
5.	Attitude toward students	-0.5654
8.	Attitude toward student opinions	0.4573
11.	Sense of humor	-0.3789
12.	Planning and preparation	-0.3208
2.	Clarity of explanation	-0.3017
9.	Variety in teaching procedures	-0.1693
3.	Fairness	-0.1167
10.	Encouragement of student participation	0.0830

Variance,[3] for both the dependent variables of student teacher self-evaluation and pupil-evaluation of their student teacher (Table 4.9, 4.10). Calculations gave a value of 0.8560 for the reliability coefficient of the dependent variable of student teacher self-evaluation, and a value of 0.9696 for that of pupil-evaluation. Perfect reliability is represented by a coefficient of 1.00. A reliability

[3]Cyril Hoyt, "Test Reliability Obtained by Analysis of Variance," Psychometrika, VI (June, 1941), 153-160.

Table 4.9. Hoyt's analysis of variance for the dependent variable of teacher self-evaluation.

Source	df	SS	MS
Subjects	35	125.637	3.5896
Items	11	38.525	3.5023
Subject X Item	385	193.558	0.5027
Total	431	357.720	0.8300

Calculations for reliability coefficient

$$\text{Reliability coefficient, } \gamma = \frac{MS_{subjects} - MS_{subject\ X\ item}}{MS_{subjects}}$$

$$= \frac{3.5896 - 0.5027}{3.5896}$$

$$= 0.8600$$

Table 4.10. Hoyt's analysis of variance for the dependent variable of pupil-evaluation.

Source	df	SS	MS
Subjects	35	110.375	3.1536
Items	11	22.847	2.0770
Subject X Item	385	36.903	0.0960
Total	431	170.125	0.3947

Calculations for reliability coefficient

Reliability coefficient, $$\gamma = \frac{MS_{subjects} - MS_{subject\ X\ item}}{MS_{subjects}}$$

$$= \frac{3.1536 - 0.0960}{3.1536}$$

$$= 0.9696$$

coefficient of about 0.90 is considered satisfactory.[4] The coefficient of reliability of a set of scores is related to a number of characteristics of the test and the group tested. Typically the reliability coefficient will be greater for scores from a test composed of more homogenous or discriminating items.[5]

A comparison of the student teacher's self-evaluation scores and the mean scores given by his pupils' evaluation on the Form B items is provided in Table 4.11 and 4.12. Although inspection of the tables reveals variety in individual cases, it was not within the scope of this study to analyze them specifically. Such analyses would probably be fruitful for individual counseling however.

Discussion of the Findings

The results of this study tend to raise more questions than they answer. Although the results are subject to the limitations of this study, such as sample size and data gathering methods, some conclusions about their possible meaning are appropriate.

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[4]Robert L. Ebel, Measuring Educational Achievement (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1965), p. 330.

[5]Ibid., p. 336.

Table 4.11. A comparison of the student teachers' self-evaluation scores and the mean scores from their pupils' evaluation of them (Experimental Group).

Sample		Form B items - Knowledge of subject		Clarity of explanation		Fairness		Discipline		Attitude toward students	
		S	P	S	P	S	P	S	P	S	P
"Cluster" Student Teaching Program	1	3	3.75	3	3.58	4	3.62	2	2.54	4	4.25
	2	4	3.89	4	3.14	5	3.82	4	3.07	4	4.07
	3	4	3.56	2	3.28	4	3.12	5	3.28	4	3.64
	4	4	3.27	3	2.95	3	2.09	3	2.05	3	2.55
	5	3	4.09	2	3.22	3	3.57	3	3.13	3	3.48
	6	4	4.13	5	4.22	4	3.83	2	3.04	4	4.13
	7	3	3.43	2	2.83	2	3.30	1	2.26	2	3.22
	8	1	3.68	2	3.12	4	4.04	3	2.92	4	4.20
	9	5	3.42	3	2.79	4	3.25	4	2.88	3	3.04
Conventional Student Teaching Program	10	5	4.00	4	3.27	4	3.67	3	3.00	3	4.33
	11	3	3.43	2	2.80	3	2.13	3	2.70	3	2.20
	12	4	2.66	4	2.00	3	1.45	4	2.03	3	1.28
	13	2	3.11	4	2.46	4	2.68	1	2.07	4	2.79
	14	4	3.58	3	3.00	3	2.92	2	2.12	3	2.88
	15	3	3.71	3	3.75	4	3.75	3	3.38	4	4.33
	16	4	3.29	3	2.79	4	3.25	4	3.42	3	2.92
	17	4	3.82	3	3.52	4	4.07	2	2.66	4	3.97
	18	2	3.88	3	3.46	3	4.04	2	2.46	3	4.27

Legend: S = student teacher's self-evaluation scores
P = mean scores from pupils' evaluation of student teacher

Selected teacher characteristics													
Ability to stimulate interest		Attitude toward subject		Attitude toward student opinions		Variety in teaching procedures		Encouragement of student participation		Sense of humor		Planning and Preparation	
S	P	S	P	S	P	S	P	S	P	S	P	S	P
3	3.29	3	4.00	3	3.86	3	3.42	4	3.29	4	3.96	3	3.42
4	3.54	5	4.39	5	3.89	4	3.04	4	3.79	4	4.46	4	3.86
3	2.72	3	3.88	4	3.20	5	2.88	5	3.24	5	3.00	3	3.52
2	2.18	4	3.14	3	2.91	3	2.14	3	2.64	3	1.73	3	2.86
3	3.22	3	3.83	4	3.70	2	2.70	3	3.48	3	3.39	3	3.48
5	3.78	4	4.35	4	4.17	5	4.04	5	4.17	4	4.52	5	3.83
2	2.26	3	3.65	3	3.43	3	2.35	4	3.43	3	2.43	4	3.22
3	3.24	5	4.36	4	3.76	3	3.04	4	3.80	5	4.36	4	3.40
3	2.00	4	3.33	4	2.96	3	2.00	4	2.58	3	2.79	3	3.21
3	3.67	5	3.80	3	3.67	4	3.40	2	3.40	3	3.80	4	4.00
2	2.80	3	3.47	3	2.20	3	2.47	3	2.37	3	2.33	3	2.77
2	2.07	3	2.28	2	1.93	1	1.93	3	2.28	3	1.48	3	2.38
3	2.11	2	2.93	5	3.00	4	2.71	4	2.64	4	2.96	3	2.50
3	2.23	4	3.42	3	2.88	3	2.04	2	2.92	3	2.46	4	2.92
4	3.83	4	4.17	4	3.96	3	4.00	4	3.75	4	4.17	3	3.79
4	2.96	4	3.25	3	3.29	4	3.25	4	3.46	3	3.50	5	3.42
2	2.79	3	4.00	3	4.07	2	2.66	3	3.48	2	3.50	2	3.55
3	3.19	3	3.77	4	3.81	4	3.85	5	3.35	5	3.58	3	3.35

A score of 1 is 'below average,' 2 is 'average,'
3 is 'good,' 4 is 'very good,' 5 is 'the very best.'

Table 4.12. A comparison of the student teachers' self-evaluation scores and the mean scores from their pupils' evaluation of them (Control Group).

Sample		Form B items - Knowledge of subject		Clarity of Explanation		Fairness		Discipline		Attitude toward students		Ability to stimulate interest	
		S	P	S	P	S	P	S	P	S	P	S	P
"Cluster" Student Teaching Program	19	4	4.37	4	4.15	5	4.19	3	3.59	5	4.48	3	3.85
	20	4	4.00	4	3.94	5	4.38	4	4.38	4	4.47	3	4.06
	21	3	3.64	4	3.04	5	3.56	5	4.12	5	3.00	4	2.80
	22	3	3.76	3	3.48	4	3.81	3	3.67	4	4.14	3	3.24
	23	3	4.00	2	3.94	4	3.74	3	3.19	4	4.03	2	3.52
	24	4	3.70	3	2.65	2	3.26	2	2.30	2	3.32	1	2.26
	25	4	3.77	3	3.67	5	4.17	2	3.67	4	4.47	3	3.57
	26	4	4.37	5	4.26	5	4.26	4	3.89	5	4.37	4	4.05
	27	3	3.72	3	3.53	5	3.59	4	3.66	4	4.09	3	3.50
Conventional Student Teaching Program	28	4	4.38	4	3.81	3	3.30	5	4.04	5	3.60	5	3.81
	29	4	4.24	3	3.24	4	3.65	3	3.41	4	3.88	4	3.12
	30	2	3.92	2	3.81	4	4.15	2	3.15	4	4.15	3	3.62
	31	4	3.77	3	3.27	4	3.81	2	2.27	4	4.04	3	2.88
	32	3	3.70	3	3.63	3	3.70	2	3.48	3	3.85	2	3.22
	33	4	3.80	3	3.23	4	3.80	3	3.63	4	4.37	4	3.27
	34	4	4.21	3	4.07	4	4.50	3	4.43	4	4.29	3	3.86
	35	4	3.80	3	3.20	4	3.83	3	3.50	5	3.80	4	3.47
	36	4	3.79	4	3.79	5	4.17	3	3.08	5	4.25	3	2.96

Legend: S = student teacher's self-evaluation scores
P = mean scores from pupils' evaluation of student teacher

Selected teacher characteristics											
Attitude toward subject		Attitude toward student opinions		Variety in teaching procedures		Encouragement of student participation		Sense of humor		Planning and preparation	
S	P	S	P	S	P	S	P	S	P	S	P
5	4.59	4	4.00	4	3.81	4	4.11	4	3.96	3	3.81
4	4.19	4	4.00	4	4.50	4	4.00	4	4.25	5	4.13
4	3.00	5	4.12	5	3.16	5	3.40	5	3.36	3	3.72
3	3.71	4	3.48	3	3.00	4	3.38	4	3.57	4	4.05
2	3.74	4	3.84	3	3.06	3	3.74	3	4.06	4	3.68
2	3.95	3	3.43	3	2.48	3	2.78	3	3.22	4	3.30
5	4.03	5	3.97	3	3.40	4	3.63	2	4.07	4	4.07
5	4.32	5	4.42	5	4.11	5	4.16	5	4.11	4	4.21
4	3.56	5	3.66	3	3.53	4	3.81	5	3.59	3	3.44
4	3.96	4	3.81	5	3.85	5	3.70	5	3.90	4	3.78
5	4.12	4	3.38	4	2.71	4	3.94	4	3.71	3	4.00
2	3.67	4	4.27	2	3.46	4	3.73	3	4.42	2	3.81
4	3.81	4	3.81	3	3.27	3	3.19	4	3.65	3	3.42
3	3.78	2	3.59	4	3.41	2	3.41	2	3.41	3	3.74
5	3.97	5	3.97	4	3.27	4	3.83	4	3.83	3	3.73
4	4.50	4	4.21	4	4.71	4	3.86	4	4.50	4	3.93
4	4.07	4	3.57	2	3.00	3	3.67	4	4.47	2	3.90
4	3.92	4	3.63	3	3.71	5	3.58	4	3.42	4	3.63

A score of 1 is 'below average,' 2 is 'average,'
3 is 'good,' 4 is 'very good,'
5 is 'the very best.'

The univariate analysis of variance rejected only the hypothesis, $H_{o_{1B}}$, of no significant difference between the mean scores on selected teacher characteristics of the student teachers receiving pupil feedback treatment and student teachers not receiving pupil feedback treatment, as measured by the pupils' evaluation of their student teacher. Failing to reject the other null hypotheses, based on statistical analysis, the writer concludes:

1. There is no significant difference on selected teacher characteristics between the student teachers receiving pupil feedback treatment and the student teachers not receiving pupil feedback treatment, as measured by the student teacher's self-evaluation.
2. There is no significant difference on selected teacher characteristics between student teachers due to Student Teaching Program (Conventional versus "Cluster") effect, as measured by both the student teacher's self-evaluation and the evaluation by their pupils.
3. There are no significant interaction effects of the variables of pupil feedback treatment and Student Teaching Program, as measured by both the student teacher's self-evaluation and the evaluation by their pupils.

The only significant difference on selected teacher characteristics appeared in the student teachers receiving

pupil feedback treatment and the student teachers not receiving pupil feedback treatment, as measured by the pupils' evaluation of their student teacher. In view of the present findings, there is a tendency for one to regard the experimental variable of pupil feedback treatment was alone responsible for the change (in the negative direction) in subsequent student teacher behavior. However, aware of the limitations of the study, the writer is of the opinion that the pupil feedback alone probably did not effect this change and proposes a combination of influences that may account for the present findings.

The design of the present study is a "true experimental design," or, specifically, the "posttest-only control group design," as described by Campbell and Stanley. This design uses randomization as "the most adequate all-purpose assurance of lack of initial biases between groups," instead of a pretest. This design was accepted by the writer for the following reasons: (1) it was inconvenient to give a pretest, and, more important, (2) it appeared desirable to eliminate the "reactive or interaction effect of testing in which a pretest might increase or decrease the respondent's sensitivity or responsiveness to the experimental variable."

The posttest-only control group design may be described thus:

R X O
R O

where X represents the experimental treatment (that is, pupil feedback treatment); 0 refers to some process of observation or measurement (that is, the pupils' responses to the Student-Opinion Questionnaire, Form B); the Xs and 0s in a given row are applied to the same specific persons. R indicates random assignment to separate groups. The sources of invalidity for this design is presented in Table 4.13.[6]

In the present study, the experimental variable of pupil feedback necessitates the completion of a Student-Opinion Questionnaire (Form A) by the pupils, and the student teachers, of the Experimental Group only. This questionnaire (Form A) is unlike the Student-Opinion Questionnaire (Form B), which serves as a 'posttest' for all groups, but both forms measure primarily teacher characteristics, some of which are unique to one form and others are overlapping. Because of these points of similarities and differences, Form B was selected. Where the items are similar on both forms there may exist the possibility of a "halo effect," but the presence of items peculiar to Form B was intentional as a basis for discussing such bias if it existed. As a result of the

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[6]Donald T. Campbell and Julian C. Stanley, Experimental and Quasi-Experimental Designs for Research (Chicago: Rand McNally and Company, 1963).

Table 4.13. Sources of invalidity for the "posttest-only control group design" (Campbell and Stanley, ibid., p. 8).

Sources of Invalidity			
Internal		External	
+	History	+	Interaction of Testing and X
+	Maturation	?	Interaction of Selection and X
+	Testing	?	Reactive Arrangements
+	Instrumentation		
+	Regression		
+	Selection		
+	Mortality		
+	Interaction of Selection and Maturation, etc.		

Note: In the table, a plus, +, indicates that the factor is controlled, a question mark, ?, indicates a possible source of concern.

introduction of Form A to the Experimental Group only, two possible 'side-effects' could result. It could be assumed that all pupils form impressions of their student teacher's classroom verbal behavior, but the exposure of the Experimental Group of pupils to the questionnaire (Form A) may have increased their sensitivity to the student teacher behavior and focussed their attention on certain categories of behavior. The pupils of the Control Group were not exposed to the questionnaire and, although they undoubtedly

formed impressions of the student teacher's behavior too, they may not have had a framework to focus on and categorize their impressions. As such the reactive effects, due to the administration of the questionnaire to the pupils of the Experimental Group alone, may not have been totally controlled in the experimental design and may have been a cause for confounding the effect of the experimental variable of feedback treatment.

In completing the first questionnaire (Form A), to provide feedback to their student teacher, the pupils of the Experimental Group may have evaluated their student teacher strictly or even critically so that the student teacher would be expecially aware of his weaker points. Thus the early judgments the pupils form of their student teacher may have crystallized and may not have been erased or minimized two or three weeks later. In a subsequent performance, on the 'posttest' (Form B), this impression may have influenced the pupils' final evaluation, resulting in a lower score for the student teachers in the Experimental Group. Essentially, we may have the influence of the "halo effect," which is

> . . . the tendency for the observer to form an early impression of the person being observed and to permit his impression to influence his ratings on all behaviors involving the given impression.[7]

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[7]Walter R. Borg, Educational Research: An Introduction (New York: David McKay Company, Inc., 1963), p. 241.

All the subjects in the present study were randomly selected and assigned to the various groups. However, on examination, it was found that randomness did not function to the extent of providing equivalent groups, since there was an unequal frequency of certain characteristics, such as subject matter and grade level taught, in the groups. Table 4.14 shows the distribution of the various characteristics among the different groups.

In a study of influences on pupil evaluations of student teachers, Veldman and Peck concluded that the variables of their Pupil Survey (POSR), namely,

I. Friendly and Cheerful

II. Knowledgeable and Poised

III. Lively and Interesting

IV. Firm Control

V. Non-directive

are not biased much by such influences as the grade level of the class or the socio-economic level of the school. But the data indicate strongly that

> . . . the subject matter taught has a powerful influence on the POSR scores, almost certainly more than might be due to true differences among teachers of the various subjects.

Veldman and Peck are of the opinion that "some of the 'external' influences concerned are undoubtedly measuring both teacher and situation variables," that is, the kinds of teachers that characterize certain fields have as much

Table 4.14. Frequency distribution of some of the characteristics of the sample (Experimental and Control Group).

Characteristics		Experimental Group		Control Group	
		"Cluster"	Conventional	"Cluster"	Conventional
Sex	Male	2	1	2	3
	Female	7	8	7	6
Average Number of Participating Pupils		24.1	25.7	24.9	24.4
Grade Level	7-9	7	2	4	1
	10-12	2	7	5	7
	9-10	0	0	0	1
Subject (Discipline) Taught	Art	0	1	1	0
	English	2	2	2	1
	Foreign Language	0	1	1	1
	Mathematics	2	1	1	2
	Science	1	0	1	1
	Physical Education	0	2	0	0
	Social Studies	2	1	3	2
	Business	0	0	0	1
	Home Economics	2	1	0	1

influence as the discipline itself upon pupils' evaluation.[8] One is inclined to speculate, therefore, that the differential frequency of certain subject matter (such as social studies, physical education, home economics) in the Experimental and Control Group may be partially responsible for the lower score given the former group of student teachers by their pupils.

An important factor which may affect the student teacher classroom behavior and weaken the effects of pupil feedback is the student teacher himself. The student teacher's self-concept may affect the usefulness of pupil ratings. A student teacher, with a negative self-concept, may regard the classroom situation as threatening and have inferiority feelings. This individual is also "deficient in self-esteem and is more likely to be 'situation-dominated.'" Such a poor attitude may be transferred to the pupils, resulting in further alienation of the student teacher from his class.[9]

A student teacher, who is not well adjusted may resort to defense mechanism when he receives harsh criticism. This may result in less "communication between the

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[8]Donald J. Veldman and Robert F. Peck, "Influences on Pupil Evaluations of Student Teachers," Journal of Educational Psychology, 60 (April, 1969), 103-108.

[9]John J. Brownfain, "Stability of the Self-concept as a Dimension of Personality," Journal of Abnormal and Social Psychology, 47 (July, 1952), 605.

student teacher and pupils" or "an increase of distorted meanings" between them during communication.[10]

The degree to which the student teacher himself "value[s] pupils and desire[s] successful relationships with them" may also decide whether the student teacher changes, as a result of pupil feedback, in the direction conductive to positive responses from the pupils. Essentially, whether the student teacher can accept pupil ratings constructively or not depends on his "system of motives and values."[11]

The student teaching period is a short one, during which many adjustments have to be made by the individual student teacher. In developing a change in attitudes, the complexity of human personality and the time factor involved must be recognized.[12] Uncomplimentary reactions of pupils, as were found in the present study, may be difficult for the student teacher to accept, and a longer period than is possible in student teaching may be necessary to develop self-understanding in student teachers.

Maybe the collection of this feedback by the student teacher himself or other friendly person such as his

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[10]Marjorie L. Savage, "Pupil Ratings Used in Student Teaching," American Vocational Journal, 37 (January, 1962), 29.

[11]Ibid.,

[12]Carl Rogers, Counseling and Psychotherapy (New York: Houghton Mifflin Company, 1942), p. 177.

fellow student teachers or cooperating teacher, but not an 'outsider' like the writer, may facilitate greater acceptance and use of pupil feedback. The presentation of the feedback through correspondence may not have buffered the shock either of receiving harsh criticism or of receiving such negative feedback through an 'outsider.' The whole concept of feedback and its application to effect change in a positive direction may be more complex than has been assumed here in its method of collection and presentation.

In the area of persuasion, which is somewhat related to teaching, Hovland et al. have found repeatedly that long term effects are both quantitatively and qualitatively different.[13]

In his study of secondary science student teachers, McLeod found that the most rapid period of change in verbal behavior occurred during the first half of student teaching for the student teachers trained in interaction analysis and during the second half for those not so trained. In the latter period, all student teachers experience changes, and the number of differences between them decreased. McLeod's experimental group moved decidedly toward more indirect teaching in the latter half of student teaching

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[13] C. I. Hovland, I. L. Janis, and H. H. Kelley, Communication and Persuasion (New Haven Conn.: Yale University Press, 1953), cited by Campbell and Stanley, op. cit., p. 31.

but some of these changes were insufficient to compensate for the initial direct changes. For example, student responses decreased initially but increased significantly during the second half of student teaching, but the latter increase was still not large enough to offset the initial decrease and the overall net effect was still a decrease of student responses.[14]

In the present study, there was only a brief period of two to three weeks, for the student teacher, provided with organized feedback, to react and show change in his subsequent classroom encounters. This brief period may be one of the major contributing factors for the present findings. It is speculated that during this brief period a combination of variables, rather than the experimental variable of pupil feedback alone, was influential in effecting the change (in the negative direction) in student teachers with regard to selected teacher characteristics. The alternative to this speculation is that pupil feedback alone was instrumental in this change; if this is so, the relevant question is: Would pupil feedback sustain this change, in the negative direction, in

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[14]Richard J. McLeod, Changes in the Verbal Interaction Patterns of Secondary Science Teachers who have had Training in Interaction Analysis and the Relationship of these Changes to the Verbal Interaction of their Cooperating Teachers, Office of Education, U. S. Department of Health, Education and Welfare, Project No. 6-8078 (Ithaca, New York: Cornell University, May, 1967).

selected teacher characteristics of student teachers, over an extended period of time?

And last, but not least, the design of the study itself may be a contributing factor to the present findings. It was hypothesized that pupil feedback, from their responses to Form A items, would effect change in student teacher behavior on a selected number of teacher characteristics as defined by Form B items. The nature of the feedback treatment and the final measure of the selected teacher characteristics may be too different. It is possible that the student teacher did change his behavior as a result of the pupil feedback, in some other as yet unidentified area, but not concerning the selected teacher characteristics of Form B.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of this study was to develop a system for providing organized pupil feedback to student teachers concerning their classroom verbal behavior, and to determine if provision of such feedback had any effect on subsequent student teacher behavior in a selected number of teacher characteristics. It also provided information to determine whether the type of Student Teaching Program (Conventional versus "Cluster") influenced the variable of feedback treatment.

As a result of the questions raised and the theory presented, the following hypotheses were formulated:

1. Student teachers receiving pupil feedback will differ significantly on selected teacher characteristics from student teachers not receiving pupil feedback, as measured by the student teacher's self-evaluation and by their pupils' evaluation of them.
2. Student teachers in the Conventional Student Teaching Program will differ significantly on

selected teacher characteristics from student teachers in the "Cluster" Student Teaching Program, as measured by the student teacher's self-evaluation and by their pupils' evaluation of them.

3. There will be a significant interaction of pupil feedback treatment and Student Teaching Program effects, as measured by the student teacher's self-evaluation and by their pupils' evaluation of them.

To test these hypotheses thirty-six sutdent teachers, randomly selected from the total Winter Term, 1971, enrollment of secondary school student teachers at Michigan State University, and their classes, were the subjects of the study (In most cases only one class of each student teacher participated, but where the class size was small, two classes were used.). Eighteen of these student teachers were in the Conventional Student Teaching Program and the other eighteen in the "Cluster" Student Teaching Program. Nine student teachers in each program were randomly assigned to an Experimental Group (which was provided with the organized pupil feedback concerning their classroom verbal behavior) and the other nine to a Control Group (which was not provided with organized pupil feedback concerning their classroom verbal behavior).

On the fifth week of student teaching, each student teacher of the Experimental Group only, and one or two of his classes, completed a Student-Opinion

Questionnaire (Form A), patterned after Flanders ten categories for Interaction Analysis. On receipt of these completed questionnaire forms, the writer summarized and analyzed these responses and returned them to the respective student teacher to serve as feedback about his classroom verbal behavior, as perceived by his pupils and self. The student teachers, and their classes, of the Control Group were not given the questionnaire (Form A) to complete nor were they given any organized pupil feedback like that received by the Experimental Group.

On the (last) tenth or eleventh week of student teaching, the student teachers of both the Experimental and Control Group, and their classes, completed another Student-Opinion Questionnaire (Form B), adapted from a Student-Opinion Questionnaire prepared by the Student Reaction Center, Western Michigan University, Kalamazoo, Michigan. The responses to this questionnaire were used as data for the study. The study used, therefore, a posttest-only control group design.

Two univariate analysis of variance (fixed effects model) were used to determine significant difference at the .025 level of significance, for each of the dependent variables of student teacher self-evaluation and pupil-evaluation of their student teacher.

Each hypothesis was presented in its null form, and then, evaluated with respect to the statistical evidence, rejected or not rejected. The results indicated:

1. There is no significant difference between the mean scores on selected teacher characteristics of the student teachers receiving pupil feedback treatment (Experimental Group) and student teachers not receiving pupil feedback treatment (Control Group), as measured by the student teacher's self-evaluation. There is a significant difference between the mean scores on selected teacher characteristics of the student teachers receiving pupil feedback treatment (Experimental Group) and student teachers not receiving pupil feedback treatment (Control Group), as measured by the pupils' evaluation of their student teacher. (An examination of the raw mean scores reveals the student teachers receiving pupil feedback treatment, Experimental Group, scored lower than student teachers not receiving pupil feedback treatment, Control Group, as measured by the pupils' evaluation of their student teacher.)
2. There is no significant difference between the mean scores on selected teacher characteristics of student teachers in the Conventional Student Teaching Program and student teachers in the "Cluster"

Student Teaching Program, as measured by the student teacher's self-evaluation and by their pupils evaluation of them.

3. There is no significant interaction of pupil feedback treatment and student teaching program effects, as measured by the student teacher's self-evaluation and by their pupils' evaluation of the student teachers.

Conclusions

The experimental variable of pupil feedback treatment did not differentiate between student teachers who received the treatment and student teachers who did not receive the treatment, as measured by the student teacher's self-evaluation. But the pupils perceived a significant difference between student teachers receiving pupil feedback treatment and student teachers not receiving pupil feedback treatment. Unexpectedly, the mean scores of the former were lower than that of the latter.

The Student Teaching Program (Conventional versus "Cluster") did not significantly influence the student teacher behavior, with regard to selected teacher characteristics, as measured by the student teacher's self-evaluation and by their pupils' evaluation of them.

There was no significant interaction of pupil feedback treatment and student teaching program effects, as measured by the student teacher's self-evaluation and by their pupils' evaluation of them.

Aware of the limitations of this study, the writer proposes a combination of influences, rather than pupil feedback treatment alone, that may account for the present provocative findings.

The pupils of the Experimental Group only completed a Student-Opinion Questionnaire (Form A), the responses of which were summarized and analyzed by the writer to serve as the pupil feedback treatment for their student teachers. Exposure to this questionnaire may have increased the sensitivity of these pupils to their student teacher classroom behavior and focussed their attention to certain categories of the behavior. In addition, impressed with the idea of providing feedback to their student teacher, the pupils may have evaluated their student teacher strictly or even critically so that the student teacher would be especially aware of his weaker points. The pupils' early judgments may not have been completely erased or minimized two or three weeks later. In a subsequent performance, on the completion of the 'posttest' (Form B), this impression may have influenced the pupils' final evaluation, resulting in a lower score for the student teacher in the Experimental Group. Essentially, because this initial evaluation, which

serves to provide the pupil feedback, is built into the treatment variable, the pupils of the Experimental Group only are biased by the reactive effect of treatment and the "halo effect," both of which may be important contributing factors to the present findings.

Although the subjects of the study were randomly selected and assigned to the various groups, an examination of their distribution reveals that randomness did not result in equivalent groups, since there was an unequal frequency of certain characteristics, such as subject matter taught, or grade level of the participating classes in the groups. Some research has shown that the subject matter taught has a powerful influence on pupil evaluations of student teachers, which will account for more than the true differences among teachers of the various subjects. This influence of differential effects of subject matter taught may also be present in this study.

Yet another factor which may weaken the effects of the pupil feedback and affect student teacher behavior is the student teacher himself. Pupil ratings, most of which have some harsh criticism in the present study, may threaten a student teacher, who is not well-adjusted or have a negative self-concept, in some way as to result in less communication or increased distorted meanings during communication leading to further alienation between

student teacher and pupils and will tend to lead to a lower score for the student teacher.

In the present study, there was only a brief period of two to three weeks for the student teacher, provided with organized pupil feedback, concerning their classroom verbal behavior, to react and demonstrate change in selected teacher characteristics in his subsequent classroom encounters. This brief period may be influential in determining the present findings, in which case, the relevant question would be: Would pupil feedback, to student teachers regarding their classroom verbal behavior, sustain a change, in the negative direction, with respect to selected teacher characteristics, over an extended period of time? The alternative speculation is that a combination of factors, described above, rather than pupil feedback alone, was responsible for the change in student teacher behavior regarding the selected teacher characteristics in the study.

And last, but not least, the design of the study itself may be a contributing factor for the present findings. It was hypothesized that pupil feedback, from their responses to Form A items, would effect change in student teacher behavior on a selected number of teacher characteristics as defined by Form B items. The nature of the feedback treatment and the final measure of the selected teacher characteristics may be too different. It is

possible that the student teacher did change his behavior as a result of the pupil feedback, in some other as yet unidentified area but not concerning the selected teacher characteristics of Form B.

The findings of this study appear provocative and certainly warrant a repetition or further research. Possibly the chief contribution of the study is that it is an initial attempt to study the possibility of using a simple yet natural and potentially useful tool, namely pupil feedback. It explored the use of organized pupil feedback to provide a student teacher with meaningful and reliable data concerning her classroom behavior, as perceived by the very people he intends to influence and this can serve, consequently, as a corrective mechanism for the student teacher who wants to improve and grow.

Recommendations for Further Research

Since the study is limited by a number of variables, the findings obtained and the conclusions presented should be treated with caution. It is hoped that further research will lead to more definite answers. Suggestions for future research on the same instrument include:

1. a larger sample (than the thirty-six subjects in this study).

2. a random selection from a population with some common characteristics, such as similar subject matter taught or related grade level, that is a stratified sample. A study of a sample of a particular discipline or a well-defined grade level may reveal similar trend in the findings or show definite differences between say, Science and non-Science student teachers or between elementary and Junior High or Senior High student teachers.
3. giving the Control Group the first Student-Opinion Questionnaire (Form A) also, but not providing the student teacher with these responses, that is, introducing a "placebo" for the Control Group. In introducing a placebo to the Control Group, the problem of "halo effect" and reactive effect due to the treatment variable can be resolved.
4. extending the period between receipt of the feedback by the student teacher and the final completion of the posttest. In extending the period for the student teacher to absorb the feedback treatment and show change, the full effects of this treatment could be clarified.
5. strengthening the feedback treatment, say with contact and more communication with the student teachers. Feedback that implies inadequacies of the individual is usually difficult to accept and

could even be damaging especially to a student teacher who is not well-adjusted or has a negative self-concept. Therefore, maximum attention should be directed to buffering the shock of receiving it and capitalizing on this feedback. Communication of this feedback by correspondence may not have been the most effective way; perhaps contact or increased communication than has been actually accomplished in this study would facilitate greater acceptance and utilization of the feedback.

There must be tremendous potential in pupil feedback, especially for the student teacher who wishes to improve and to grow. When this is tapped, it will certainly contribute to improving the quality of teacher preparation programs and teaching. The procedure is simple and inexpensive and can be virtually adopted by any person, school, or teacher training institution, without causing much, if any, organizational change.

In follow-up interviews and in written responses, several of the student teachers from the Experimental Group expressed the opinion that pupil feedback was useful, and, to the researcher, this is maybe a valid reason for supporting the use of pupil feedback and for promoting more research on it.

It is proposed that future research on pupil feedback include the area of non-verbal communication. A

follow-up study of student teachers who have been impressed with the use of pupil feedback during student teaching and a study of their continual use of the technique may be another fruitful topic for investigation. There is also the possibility of comparing "superior teachers" with average teachers, regarding their use of pupil feedback and of the importance they attach to this factor of pupil feedback.

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APPENDICES

APPENDIX A

STUDENT-OPINION QUESTIONNAIRE

FORM A AND FORM B

(PILOT STUDY)

Dear Student,

In many of our everyday activities, we use feedback to ensure success or better results. For example, after throwing a ball, we look to see if the pass has been completed. If the pass was successful, we try to repeat this same pass pattern the next time. If the pass was incomplete, we may realize for example, that the failure was due to the ball being thrown outside the reach of the receiver. The "reasons" for the successful or unsuccessful pass is "feedback" for the person who threw the ball. In like manner, a teacher would and should like to receive some feedback from his/her students, to ensure that his/her "passes" (that is, his/her teaching) are "complete" (that is, the pupils understand, like and learn what he/she has been teaching).

Feedback to a teacher can take different forms, such as "yawns" and other signs of boredom, or interested faces, or the teacher can directly ask questions about the lesson he/she has just presented. The feedback can also be in the form of students expressing their feelings by completing a questionnaire, which is the way we have chosen for our study.

We are particularly interested in the growth and improvement of student teachers, and we feel strongly that pupils' feedback will improve their teaching and way of working with the class and we need your help to prove it!

We much appreciate and need your cooperation. Thank you for your assistance.

Sincerely,

Irene Wong
Graduate Student
College of Education

Henry W. Kennedy
Director
Student Teaching

STUDENT-OPINION QUESTIONNAIRE

Directions for completing the questionnaire:

Please answer the following questions honestly and frankly. Do not give your name. After completing the questionnaire, sit quietly or study until all the other students have completed their questionnaires. Please, NO TALKING.

This is not a "test." There are no right or wrong answers. An answer providing your real opinion is a "correct" answer.

This questionnaire asks about your STUDENT TEACHER, not your regular teacher or substitute teacher. Please answer the questionnaire with your STUDENT TEACHER in mind.

The person, who is in charge of the class during this period, will collect all completed questionnaires and seal them in an envelop addressed to the researcher at Michigan State University. Your teacher will receive from the researcher a summary of the answers from students in your class. The researcher will mail this summary to your teacher and no one else.

STUDENT-OPINION QUESTIONNAIRE

Form A

Part 1: Think about the last class period (or ONE typical class period) you had with your STUDENT TEACHER. Consider a class period to last approximately 50 minutes. For each of the following 5 items (items # 1-5), PLEASE CHECK THE BOX THAT BEST DESCRIBES YOUR OPINION.

IN YOUR OPINION, HOW OFTEN DOES YOUR STUDENT TEACHER (in one typical class period):

1. ACCEPT STUDENTS' FEELINGS (and say he/she understands their feelings, in a non-threatening manner)?
   Example: Teacher--"It's all right, John, if you don't feel like reading just yet."

   ¤ 0 times ¤ 1-3 times ¤ 4-6 times ¤ 7-10 times
   ¤ more than 10 times

2. PRAISE AND ENCOURAGE STUDENTS (for their action or behavior)?
   Example: Teacher--"A good answer, John."

   ¤ 0 times ¤ 1-3 times ¤ 4-6 times ¤ 7-10 times
   ¤ more than 10 times

3. ACCEPT OR USE STUDENTS' IDEAS (or build and develop ideas suggested by students)?
   Example: Teacher--"John has proposed an experiment to test our hypothesis. Let us try it out now."

   ¤ 0 times ¤ 1-3 times ¤ 4-6 times ¤ 7-10 times
   ¤ more than 10 times

4. GIVE DIRECTIONS (commands or orders to which a student is expected to comply)?
   Example: Teacher--"Open your book to page 3."

   ¤ 0 times ¤ 1-3 times ¤ 4-6 times ¤ 7-10 times
   ¤ more than 10 times

5. CRITICIZE OR JUSTIFY AUTHORITY (by making statements with intent to change students' behavior from non-acceptable to acceptable pattern or saying why teacher is doing what he is doing)?
   Example: Teacher--"If you write more legibly, I won't have problems grading your paper" or "Teacher knows best what ought to be done."

   ¤ 0 times ¤ 1-3 times ¤ 4-6 times ¤ 7-10 times
   ¤ more than 10 times

Part II: Think about the last class period (or ONE typical class period) you had with your STUDENT TEACHER. Consider a class period to last approximately 50 minutes: distribute these 50 minutes among the following 6 activities (Items # 6-11). The distribution of 50 minutes among these 6 activities need not necessarily be equal: your answer

can range from 0, 1, 2,...50 minutes but your time estimate for all 6 activities must total 50 minutes. PLEASE WRITE DOWN IN THE SPACE PROVIDED, EXACTLY HOW MANY MINUTES YOU FELT WAS ACTUALLY SPENT IN EACH OF THE FOLLOWING ACTIVITIES.

IN YOUR OPINION, WHEN YOUR STUDENT TEACHER IS TEACHING, HOW MUCH TIME IS SPENT IN:

6. TEACHER ASKING QUESTIONS (about the subject or the lesson, which requires an answer from the students)?
   Example: Teacher--"What is the capital of Michigan?"

   My estimate is _____ minutes.

7. TEACHER LECTURING (or giving facts or opinions about the subject or lesson)?
   Example: Teacher--"The eagle is a bird of prey, noted for his strength, size, keeness of vision, powers of flight,...,etc.,etc.,etc.,..."

   My estimate is _____ minutes.

8. PUPILS RESPONDING TO TEACHER'S QUESTIONS (or statements)?
   Example: Pupil--"Lansing is the capital of Michigan" (in answer to Teacher--"What is the capital of Michigan?").

   My estimate is _____ minutes.

9. PUPIL--INITIATED TALK (or pupils responding to other pupils' questions or statements)?
   Example: Pupil--"Why isn't Detroit considered the capital of Michigan?" (in response to Pupil--"Lansing is the capital of Michigan.")

   My estimate is _____ minutes.

10. SILENCE (with nobody talking) OR CONFUSION (with more than one person talking at the same time)?

    My estimate is _____ minutes.

11. OTHER ACTIVITIES

    ☐ Please check this box if you feel there are NO other activities, not described by items # 1-10.

¤ Please check this box if you feel there are other activities, not described by items # 1-10.

The "OTHER ACTIVITIES" are _____

_____(Please describe these activities).

My estimate is _____ minutes.

* * * * * * * * * * *

STOP!

Before you leave this questionnaire, PLEASE CHECK THAT THE ESTIMATED TIME FOR ITEMS # 6-11 TOTAL 50 minutes. Please use the handy check below:

My estimate for item 6 is _____ minutes
item 7 is _____ minutes
item 8 is _____ minutes
item 9 is _____ minutes
item 10 is _____ minutes
item 11 is _____ minutes

Total time is _____ minutes

(Is your TOTAL TIME 50 minutes? If not, please return to Form A Part II and re-estimate.)

Dear student,

I wish to express my sincere appreciation for your co-operation in this proposed study for a Ph. D. thesis. You are the first group of students to complete the STUDENT-OPINION QUESTIONNAIRE (Form A and Form B) and it is, therefore, very important for me to know your reactions to the design of the questionnaire. Please help me construct a better questionnaire by giving me your comments. For example, what are your feelings about: (please write "no comments" if such is the case).

(a) "Directions for completing the questionnaire": Are the "Directions" clear, understandable, etc.?

Your comments: _____

(b) "Form A--Part 1: Think about the last class period..." (Please refer to page 1).

Your comments: _____

(c) the items in Form A (page 1): Are the items expressed clearly? Are the "answers" appropriate?

Your comments:
Form A: item # 1 _____

item # 2 _____

item # 3 _____

item # 4 _____

item # 5 _____

(d) "Form A--Part II: Think about the last class period..." (Please refer to page 2).

Your comments: _____

(e) the items in Form A (page 2): Are the items expressed clearly? Are the "answers" appropriate?

Your comments:
Form A: item # 6 _____

item # 7 _____

item # 8 _____

item # 9 _____

item # 10 _____

item # 11 _____

(f) other comments _____

Thank you very much for your cooperation and assistance.

Sincerely,

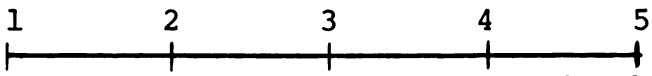
STUDENT-OPINION QUESTIONNAIRE

Form B
(page 1)

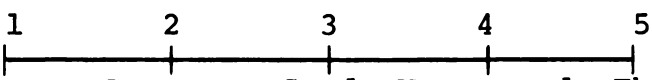
FORM B: PLEASE CIRCLE THE NUMBER THAT BEST DESCRIBES YOUR OPINION.

WHAT IS YOUR OPINION CONCERNING YOUR STUDENT TEACHER'S:

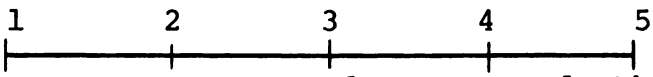
1. KNOWLEDGE OF SUBJECT: How well does he/she know the subject he/she is teaching?



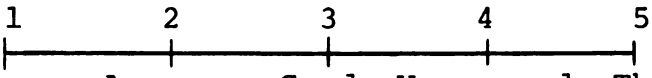
2. CLARITY OF EXPLANATION: How clear and definite are his/her assignments and explanations?



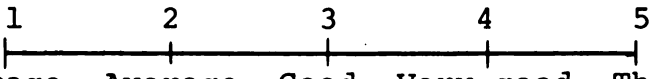
3. FAIRNESS: How fair and impartial is he/she in his/her treatment of all students?



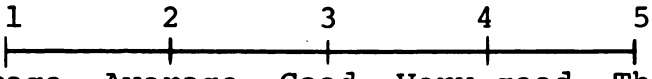
4. DISCIPLINE: How well does he/she keep control of the class without being harsh? How firm but fair is he/she?



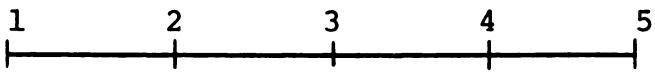
5. ATTITUDE TOWARD STUDENTS: How patient, understanding, friendly, considerate, and helpful is he/she?



6. ABILITY TO STIMULATE INTEREST: How interesting and challenging is his/her class?

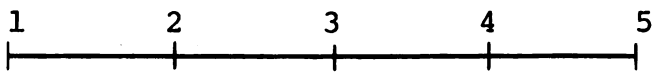


7. ATTITUDE TOWARD SUBJECT: How interested and enthusiastic is he/she for the subject? How well does he/she appear to enjoy teaching this subject?



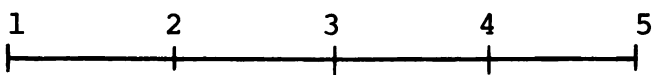
Below average Average Good Very good The very best

8. ATTITUDE TOWARD STUDENT OPINIONS: How respected are the ideas and opinions of students? How welcomed are differences of opinion even when a student disagrees with the teacher?



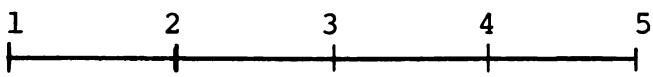
Below average Average Good Very good The very best

9. VARIETY IN TEACHING PROCEDURES: How well are different and appropriate teaching methods (student reports, class discussions, small group discussion, films, and other audio-visual aids, demonstrations, debates, field trips, teacher lectures, guest lectures, etc.) used at different times?



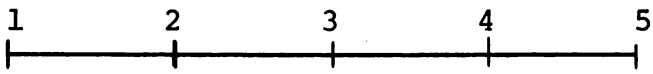
Below average Average Good Very good The very best

10. ENCOURAGEMENT OF STUDENT PARTICIPATION: How well are students made to feel free to raise questions and express opinions? How well are students encouraged to take part?



Below average Average Good Very good The very best

11. SENSE OF HUMOR: How well does he/she see and share with students amusing happenings and experiences?



Below average Average Good Very good The very best

12. PLANNING AND PREPARATION: How well are plans made? How well is class time spent?

Below average Average Good Very good The very best

13. ASSIGNMENTS: How challenging are assignments (out-of-class, required work)? How reasonable is the weight of assignments?

Below average Average Good Very good The very best

Dear Student,

I wish to express my sincere appreciation for your co-operation in this proposed study for a Ph. D. thesis. You are the first group of students to complete the STUDENT-OPINION QUESTIONNAIRE (Form B) and it is, therefore, very important for me to know your reactions to the design of the questionnaire. Please help me construct a better questionnaire by giving me your comments. For example, what are your feelings about (Please write "no comments" if such is the case):

(a) "Directions for completing the questionnaire": Are the "directions" clear, understandable, etc.?

Your comments: _____

(b) the items in Form B (page 1 and 2): Are the items expressed clearly? Are the "answers" appropriate?

Your comments:

Form B: item # 1 _____

item # 2 _____

item # 3 _____

item # 4 _____

item # 5 _____

item # 6 _____

item # 7 _____

item # 8 _____

item # 9 _____

item # 10 _____

item # 11 _____

item # 12 _____

item # 13 _____

(g) other comments: _____

Thank you very much for your co-operation and assistance.

Sincerely,

APPENDIX B

STUDENT-OPINION QUESTIONNAIRE--FORM A

APPENDIX B-1

STUDENT-OPINION QUESTIONNAIRE*

Form A

Part I: Think about the last class period (or ONE typical class period) you had with your STUDENT TEACHER. Consider a class period to last approximately 50 minutes. For each of the following five items (items # 1-5), PLEASE CHECK ONE BOX IN (a) AND ONE BOX IN (b), that best describes your opinion.

IN YOUR OPINION, HOW OFTEN DOES YOUR STUDENT TEACHER (in one typical class period):

1. ACCEPT STUDENTS' FEELINGS (and say he understands their feelings, in a non-threatening manner)?
   Example: Teacher--"It's all right, John, if you don't feel like reading just yet."

My estimate is (a) ☐ 0 times; ☐ 1-3 times; ☐ 4-6 times; ☐ 7-10 times; ☐ more than 10 times — which I feel is (b) ☐ too much; ☐ too little; ☐ just enough

2. PRAISE AND ENCOURAGE STUDENTS (for their action or behavior)?
   Example: Teacher--"A good answer, John."

My estimate is (a) ☐ 0 times; ☐ 1-3 times; ☐ 4-6 times; ☐ 7-10 times; ☐ more than 10 times — which I feel is (b) ☐ too much; ☐ too little; ☐ just enough

3. ACCEPT OR USE STUDENTS' IDEAS (or build and develop ideas suggested by students)?
   Example: Teacher--"John has proposed an experiment to test our hypothesis. Let us try it out now."

My estimate is (a) ☐ 0 times; ☐ 1-3 times; ☐ 4-6 times; ☐ 7-10 times; ☐ more than 10 times — which I feel is (b) ☐ too much; ☐ too little; ☐ just enough

*Adapted from Flanders categories for Interaction Analysis

4. GIVE DIRECTIONS (commands or orders to which a student is expected to comply)?
Example: Teacher--"Open your book to page 3."

My estimate is (a)
- ☐ 0 times
- ☐ 1-3 times
- ☐ 4-6 times
- ☐ 7-10 times
- ☐ more than 10 times

which I feel is (b)
- ☐ too much
- ☐ too little
- ☐ just enough

5. CRITICIZE STUDENT (by making statements with intent to change students' behavior from non-acceptable to acceptable pattern) OR JUSTIFY TEACHER AUTHORITY (by saying why teacher is doing what he is doing)?
Example: Teacher--"If you write more legibly, I won't have problems grading your paper" OR "Teacher knows best what ought to be done."

My estimate is (a)
- ☐ 0 times
- ☐ 1-3 times
- ☐ 4-6 times
- ☐ 7-10 times
- ☐ more than 10 times

which I feel is (b)
- ☐ too much
- ☐ too little
- ☐ just enough

Form A

Part II: Think about the last class period (or ONE typical class period) you had with your STUDENT TEACHER. Consider a class period to last approximately 50 minutes: distribute these 50 minutes among the following six activities (items # 6-11). The distribution of 50 minutes among these six activities need not necessarily be equal; your answer can range from 0, 1, 2,...50 minutes but your time estimate for all six activities must total 50 minutes. PLEASE WRITE DOWN IN THE SPACE PROVIDED, EXACTLY HOW MANY MINUTES YOU FELT WAS ACTUALLY SPENT IN EACH OF THE FOLLOWING ACTIVITIES, and CHECK THE BOX THAT BEST DESCRIBES YOUR OPINION.

IN YOUR OPINION, WHEN YOUR STUDENT TEACHER IS TEACHING, HOW MUCH TIME IS SPENT IN:

TEACHER TALK

6. Teacher Lecturing (or giving facts or opinions about the subject or lesson)?
   Example: Teacher--"The eagle is a bird of prey, noted for its strength, size, keenness of vision, powers of flight,...etc.,etc.,..."

My estimate is___minutes and I feel this is ☐ too much ☐ too little ☐ just enough

7. Teacher Asking Questions (about the subject or the lesson, which requires an answer from the students)?
   Example: Teacher--"What is the capital of Michigan?"

My estimate is___minutes and I feel this is ☐ too much ☐ too little ☐ just enough

PUPIL TALK

8. Pupils Answering Teacher's Questions
   Example: Pupil--"Lansing is the capital of Michigan" (in answer to Teacher--"What is the capital of Michigan?").

My estimate is___minutes and I feel this is ☐ too much ☐ too little ☐ just enough

9. Pupil-initiated Talk (or pupils responding to other pupils' questions or statements.
   Example: Pupil--"Why isn't Detroit the capital of Michigan? (in response to Pupil--"Lansing is the capital of Michigan.").

My estimate is___minutes and I feel this is ☐ too much ☐ too little ☐ just enough

OTHER ACTIVITIES

10. Silence (with nobody talking)

My estimate is___minutes and I feel this is ☐ too much ☐ too little ☐ just enough

11. Confusion (with more than one person talking at the same time).

My estimate is ___ minutes and I feel this is ☐ too much ☐ too little ☐ just enough

STOP!

Before you continue with Part III, PLEASE CHECK THAT THE ESTIMATED TIME FOR ITEMS # 6-11 TOTAL 50 minutes. Please use the handy check below:

My estimate for item # 6 is _____ minutes
7 is _____ minutes
8 is _____ minutes
9 is _____ minutes
10 is _____ minutes
11 is _____ minutes

TOTAL TIME is _____ minutes

(Is your total time 50 minutes? If not, please re-estimate.)

* * * * * * * * * * *

Form A

Part III: Please name one thing that you especially like (or dislike) about your student teacher or this class, which you want your student teacher to know.

_____

_____

_____

_____

APPENDIX B-2

Dear Student,

In most of our everyday activities, we want to know how successful we are. For example, after throwing a ball, we want to know if our partner caught it. If he did, we try to repeat this same throwing pattern next time. If he didn't catch the ball, we may realize it was thrown improperly or inaccurately and try to do better next time. In like manner, a teacher would and should like to receive some feedback from his students, to know if his teaching was "caught" (that is pupils understand, like and learn what he has been teaching).

Feedback to a teacher can take different forms. One of these is students expressing their feelings by completing a questionnaire, which is the way we have chosen for our study of pupils' feedback and its effect on student teachers.

We are particularly interested in the growth and improvement of student teachers, and we feel strongly that Pupils' feedback will improve their teaching and way of working with the class and we need your help to prove it!

We much appreciate and need your cooperation. Thank you for your assistance.

Sincerely,

Irene Wong
Graduate Student
College of Education

Henry W. Kennedy
Director
Student Teaching

APPENDIX B-3

STUDENT-OPINION QUESTIONNAIRE

Directions for completing the questionnaire:

Please answer the following questions honestly and frankly. Do not give your name. After completing the questionnaire, sit quietly or study until all the other students have completed their questionnaires. Please, NO TALKING.

This is not a "test." There are no right or worng answers. An answer providing your real opinion is a "correct" answer.

This questionnaire asks about your STUDENT TEACHER, not your regular teacher or substitute teacher. Please answer the questionnaire with your STUDENT TEACHER in mind.

The person, who is in charge of the class during this period, will collect all papers and mail them to the researcher at Michigan State University. Your student teacher will be the only person to receive a summary of the answers (and not the individual papers) from students in your class.

APPENDIX B-4

Dear Student Teacher,

You have been selected to participate in my study "Feedback as a means of changing student teacher behavior" and I much appreciate your cooperation.

Most of us know how we ought to teach or act to become better teachers and promote learning. Sometimes, however, there is a discrepancy between what a teacher thinks he is doing (that is, his intentions) and what he actually does (that is, his actions) or how he is being perceived by his pupils.

Your pupils are completing a Student-Opinion Questionnaire describing their perceptions of you as a teacher. I am interested in your evaluation of self as a teacher, and, therefore, request you to complete the same questionnaire.

After analysis of all completed questionnaires, I will be providing you with a summary of your class reaction, which you can use as a source of feedback regarding your teaching behavior, as perceived by your pupils.

I welcome any questions or suggestions for improvement of this study and can be reached at home (Telephone number 355-5963 in the evenings) or at the Student Teaching Office (253 Erickson Hall, Michigan State University, East Lansing, Michigan 48823).

Thank you very much for your cooperation and assistance.

Sincerely,

Irene Wong
Graduate Student
College of Education

Please complete:

Your Name _____

Number of class periods per week you teach this class _____

APPENDIX C

ORGANIZED PUPIL FEEDBACK TREATMENT

APPENDIX C-1

Student Teaching Office
253 Erickson Hall
Michigan State University
East Lansing, Michigan 48823

February 17, 1971.

To: Student Teachers

From: Irene Wong, researcher

Re: Feedback from Student-Opinion Questionnaire (Form A)

Dear Student Teacher,

Thank you for your participation in my study and the promptness and efficiency in which you conducted and returned the Student-Opinion Questionnaire to me.

Attached is a summary of your class reaction to the Student-Opinion Questionnaire. In many instances, there is consensus from your pupils, in their response to a particular item on the questionnaire, and this can certainly provide excellent feedback regarding your teaching behavior (as perceived by them). You would probably want to compare their perception of you and your own self-evaluation. (Some of you did not complete the self-evaluation and I am enclosing that form for you to work on it now. I would appreciate your returning this completed self-evaluation form to me, as early as is convenient for you, so that I can provide you with further feedback. PLEASE COMPLETE THE SELF-EVALUATION BEFORE YOU PROCEED TO ANALYZE THE SUMMARY OF YOUR CLASS REACTION TO THAT SAME QUESTIONNAIRE.)

If I may, I wish to make a few SUGGESTIONS regarding the constructive use of feedback:

1. You might like to analyze the feedback all by yourself or discuss it with your cooperating teacher, your college coordinator, or your colleagues.

2. Two extreme reactions to receiving feedback are:
   a. to ignore the feedback and devalue it as unimportant, hostile or useless, or
   b. to pay too much attention to all feedback and to try to change in accordance with all feedback received.

   Neither reaction is constructive.
3. Feedback is useful to a person when it is directed toward behavior which the receiver can modify or change.

If you have any question or comment regarding this study I shall be pleased to hear from you. I WANT FEEDBACK, too! (Please call me at 517-3555963, in the evenings or leave a message at the Student Teaching Office, 253 Erickson Hall, Michigan State University.)

Many of you have (or have heard of) "guaranteed" or successful (if not unorthodox) way of obtaining constructive feedback (other than completing questionnaires). I feel many of us would profit and welcome the knowledge of such strategies. So please write or call me and I will circulate the information to all our group members. Has anybody obtained constructive feedback from a TGIF-party with their pupils? Any other groovy strategies?

I shall be corresponding with you again. In the meantime I look forward much to hearing from all of you. Thank you for your cooperation.

Sincerely,

P.S.

Do you need a guide to interpret the data on the following pages? If so, this is what it means.

For Form A - page 1

In the column "SAMPLE," (for both page 1 and page 2), Tr = Teacher (that is yourself), and 1, 2, 3, 4,...30 = Number of students completing the questionnaire (Note: Each student has the same sample number throughout the summary.

Example: Student X will always be sample number 1,
Student Y will always be sample number 2, and so on)

In each of the remaining five major columns, there are subdivisions, indicating the pupils' estimate of the frequency in which each act occurs during one typical class period.

For example: 0 = 0 times per typical class period,
1-3 = 1-3 times per typical class period,
and..., > 10 = more than 10 times per typical class period.

The response of each person is obtained by reading across a row, where the estimated frequency of occurence of a particular act is considered to be "too much" (as indicated by "+"), "too little" (as indicated by "-"), or "just enough" (as indicated by "0"). A "——" indicated the response was incomplete.

For example: Sample number 31 estimated his student teacher, in one typical class period,

1. Accept students' feelings, 1-3 times (and he felt this was "too little")

2. Praise and encourage students, 4-6 times (and he felt this was "just enough")

3. Accept or uses students' ideas, 1-3 times (and he felt this was "too little")

4. Give directions, more than 10 times (and he felt this was "too much")

5. Criticize student or justify teacher authority: the student made an incomplete response to this.

For Form A - page 2

The six major columns (other than "SAMPLE") have each three subdivisions, with "+" indicating "too much," "-" indicating "too little," and "0" indicating "just enough." The numbers (other than those under "SAMPLE") represent the number of minutes the pupil estimated for each act. For example: Sample number 31 estimated his student teacher, in one typical class period of 50 minutes, spent 25 minutes in "Teacher lecture" (and he felt this was "just enough"), 4 minutes in "Teacher question" (and he felt this was "too little"), 9 minutes in "Pupil answer teacher's questions" (and he felt this was "too much"), he gave incomplete responses to "Pupil-initiated talk," "Silence" and "Confusion."

APPENDIX C-2 (A Representative Sample)

SAMPLE	1. Accept students' feelings	2. Praise & encourage students	3. Accept or uses students' ideas	4. Give directions	5. Criticize student or justify teacher authority
	$0_{1\text{-}3}{}^{4\text{-}6}{}_{7\text{-}10}{}^{>10}$	$0_{1\text{-}3}{}^{4\text{-}6}{}_{7\text{-}10}{}^{>10}$	$0_{1\text{-}3}{}^{4\text{-}6}{}_{7\text{-}10}{}^{>10}$	$0_{1\text{-}3}{}^{4\text{-}6}{}_{7\text{-}10}{}^{>10}$	$0_{1\text{-}3}{}^{4\text{-}6}{}_{7\text{-}10}{}^{>10}$
Tr	0	0	-	+	+
1	0	0	-	-	0
2	0	0	-	0	0
3	0	0	-	0	0
4	0	-	-	0	+
5	0	+	0	0	-
6	0	0	-	0	0
7	0	0	-	0	———
8	0	0	0	0	0
9	-	-	+	+	+
10	0	0	0	0	0
11	-	0	0	0	0
12	0	0	0	-	0
13	0	0	0	0	0
14	0	0	0	-	0
15	0	0	0	+	0
16	0	0	-	0	0
17	0	0	0	0	0
EXAMPLE	-	0	-	+	———

Name _____ Grade_____ Ref: _____

Subject_____ No. of class periods/week_____ Form A-page 1

APPENDIX C-2 Cont'd

SAMPLE	6. TEACHER lecture			7. TEACHER question			8. PUPIL answer teacher's questions			9. PUPIL - initiated talk			10. SILENCE			11. CONFUSION		
	+	-	0	+	-	0	+	-	0	+	-	0	+	-	0	+	-	0
Tr.			10			11			15			4			7			3
1		5			5			5				15			10			50
2		5		20			5			5					0			10
3		—			—			—			—				10			20
4		10		15			15					10		—			—	
5			3		—			5				0			10	22		
6	10					10		5				5		—		20		
7			10			20			10			5			5			0
8			5			10			10		—				5			5
9	8					10			10			10			20	30		
10			10			15			15			0			5			5
11			10						20			0			10	5		
12			25			15		3				2			0	5		
13			5			15			15			5		—				5
14			0			10			10			10			15	5		
15			12			10			10						15			2
16		—			—				15			5			0			5
17			7	20					10			5			5			3
EXAMPLE			25			4			9		—			—			—	

Name _____ Grade _____ Ref: _____

Subject _____ No. of class periods/week _____ Form A-page 2

APPENDIX C-3

Dear

Now that you had a chance to study the summary of your class perception to your teaching behavior, please allow me to share with you some interpretation of the responses. The Student-Opinion Questionnaire (Form A) was adapted from Flanders' Categories of Verbal Interaction Analysis, which was one of the more successful techniques developed to categorize and analyze the verbal interaction happening in the classroom. A person, competent and well versed in this technique, can make many accurate inferences and reconstruct a fairly complete (and objective) picture of what took place in the classroom, even without the person being present there. A more accurate picture, of course, can be obtained with supplementary materials, such as tape recordings of the class in session. Please realize that the material (that is, the completed Student-Opinion Questionnaire forms) I have available for this interpretation is limited, but I shall try still to suggest some interpretation. I shall appreciate your understanding that if you feel I did not "catch" what was really going on in your classroom, it is because I have no other supportive evidence to aid me. Under such circumstances, please use your judgment in accepting this interpretation.

INTERPRETATION:

TEACHER TALK (= total responses of items No. 1-7)
Your total sample = _____ pupils (each making 1 response to each of the 7 items)
Total pupil responses = _____ X 7 = _____, of which
_____felt that "Teacher talk" was "too much,"
_____felt that "Teacher talk" was "too little,"
_____felt that "Teacher talk" was "just enough," and
_____made incomplete responses.

PUPIL TALK (= total responses of items No. 8-9)
Your total sample = _____ pupils (each making 1 response to each of the 2 items)
Total pupil responses = _____ X 2 = _____, of which
_____felt that "pupil talk" was "too much,"
_____felt that "pupil talk" was "too little,"
_____felt that "pupil talk" was "just enough," and
_____made incomplete responses.
(Note: "pupil talk" typically varies from 25-40%, according to Flanders.)
Your _____ pupils estimated a total of _____ minutes for items No. 8 and 9, giving an average of _____ = _____ minutes or $\frac{\quad}{50}$ X 100% = _____%

SILENCE (= total responses of item No. 10)
Your total sample = _____ pupils (each making 1 response to one item)
Total pupil responses = _____, of which
_____felt that "silence" was "too much,"
_____felt that "silence" was "too little,"
_____felt that "silence" was "just enough," and
_____made incomplete responses.

CONFUSION (= total responses of item No. 11)
Your total sample = _____ pupils (each making 1 response to one item)
Total pupil responses = _____, of which
_____felt that "confusion" was "too much,"
_____felt that "confusion" was "too little,"
_____felt that "confusion" was "just enough," and
_____made incomplete responses.
(Note: "silence" and "confusion" together can vary from a mere trace to about 10%, according to Flanders.)
Your _____ pupils estimated a total of _____ minutes for items No. 10 and 11, giving an average of _____ = _____ minutes or $\frac{\quad}{50}$ X 100% = _____%

CONSTRUCTIVE INTEGRATION

A "2-3"[1] combination (that is, item No. 2 "Praise and encourage students" followed by item No. 3 "Accept or use students' ideas") indicates a shift from praise to the clarification and development of a student's ideas, while a "3-2" combination is the reverse. These combinations, together with item No. 1 "Accept students' feelings," usually indicate the teacher's concern with positive motivation and reward.

VICIOUS CIRCLE

The "vicious circle" gets its name from the sequence in which the teacher gives some directions, the students resist, the teacher criticizes and then gives more directions, and the students resist it even more, and so it goes, that is a 4-5, 5-4 combination. A heavy emphasis in these combinations, especially coupled with a 4-9 combination (that is, "Give directions" followed by "Pupil-initiated talk"), often indicates overt resistance to teacher directions.

Both "constructive integration" and "vicious circle" indicate the teacher's attention to the process problems of classroom management and control.

CONTENT CROSS

An emphasis on subject matter or the content of instruction is indicated by frequency of occurrence of items No. 6 ("Teacher lecture") and No. 7 ("Teacher question"), and some occurrence of item No. 3 ("Accept or use students' ideas) and item No. 4 ("Give directions"). A high frequency of occurrence of "7-8" combination indicates a short answer drill situation, that is the

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[1]These numbers refer to Form A items and not to Flanders categories.

teacher asks a question (item No. 7) and the pupil answers it (item No. 8).

Your _____ pupils estimated a total of _____ minutes for items No. 7 and 8, giving an average of _____ = _____ minutes or $\frac{\text{_____}}{50}$ X 100% = _____% frequency.

PRAISE (= total responses of items No. 2)

Your total sample = _____ pupils (each making 1 response to one item)

Total pupil responses = _____, of which

_____felt that "praise" was "too much,"

_____felt that "praise" was "too little,"

_____felt that "praise" was "just enough," and

_____made incomplete responses.

Praise statements that occur immediately following student statements, that is a "8-2" combination ("pupil answer teacher's questions" followed by a "Praise and encourage students," by the teacher) and a "9-2" combination ("Pupil-initiated talk" followed by a "Praise and encourage students" by the teacher) may have a much greater positive effect on the morale of students.

ACCEPT OR USE STUDENTS' IDEAS (= total responses of item No. 3)

Your total sample = _____ pupils (each making 1 response to one item)

Total pupil responses = _____, of which

_____felt that "accept or use students' ideas" was "too much,"

_____felt that "accept or use students' ideas" was "too little,"

_____felt that "accept or use students' ideas" was "just enough," and

_____made incomplete responses.

A teacher who is really concerned with what a student is saying, with what and how HIS ideas can be used, and with encouraging student participation will have higher frequencies in items No. 1, 2, 3, 8, and 9. Of your total sample of _____ pupils, their responses were:

	# 1	# 2	# 3	# 8	# 9
"too much"					
"too little"					
"just enough"					
incomplete responses					

Yes, this is THE END of letter!

APPENDIX C-4

February 24, 1971

Dear Student Teacher,

I hope the initial "feedback" package of 8 pages (Horrors! Was I that loquacious?) was useful to you in some way. This may be the last letter from me because of the brief 2 weeks left between now and the final week of student teaching. I wish to interject A PLEA FOR HELP from you! You see feedback can be more efficiently utilized if a longer span of time was made available to you. Under the present circumstances, please give your maximum attention to these "feedback" packages and work extra hard to incorporate the responses your pupils have provided into your teaching performance, starting now. You will help me? Thank you, thank you!!! You cannot promise your maximum effort to help? Please try, otherwise there goes my research data and my degree!

Attached is a summary of "What they (your pupils) say..." in response to Form A-Part III. There are practically no typing (or grammatical) errors in the summary--they are all quotations.

I wish to draw your attention to the constructive use of feedback:

1. Feedback is reporting to an individual (or a group) the kind of impressions (his intentions may be similar or the direct converse) he is making on others (in this case, your pupils). People often feel threatened by the introduction of feedback exercises, but provided with feedback about our impact on others, most of us are quite capable of improving our interpersonal communication as teachers, people, etc.

2. Feedback is useful to a person when:
   a. 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."
      You will find many of your pupils writing in the latter style but, for constructiveness, you must interpret their expressions in the spirit of the former.
   b. it is directed toward behavior which the receiver can do something about.
3. In a group discussion (or soliloquay):
   a. discuss the feelings about the feedback. (Were you hurt, did you feel attacked, pleased or what?)
   b. Are there ways of changing your behavior that would be appropriate or possibly related to the feedback received? If you can change for the better, ACT NOW!
4. Two extreme reactions to receiving feedback is:
   a. to ignore the feedback and devalue it as unimportant, hostile or useless, OR
   b. to pay too much attention to all feedback and to try to change in accordance with all feedback received. Neither reaction is constructive.

In some cases it is important to ignore negative feedback. However, one should not consistently dismiss it, but should weigh the appropriateness of it.

Studies have provided evidence to support the reliability of students as sources of feedback. How many of you have felt that you could easily provide reliable feedback to your own College instructors regarding his teaching?

The outstanding impression I get (from the pupils' summary) is:

a. you are doing a good job in teaching. Your students like you--you are understanding, patient, and explain well. "Constructive Integration" (= good #1-2-3-8-9 combination) is evident, indicating that you accept student's feelings and ideas, praise and encourage them and this is reflected in student talk.

b. your attention is required in the following areas: (I share with you your feelings that these were not your intent, but, unfortunately, this is how you are being perceived by your pupils.) "Confusion": 6/16 pupils (from a total sample of 16) indicated there is too much confusion. As an "outsider" I really don't know what these 6 pupils mean by too much confusion, but you know, I'm sure.

BYE, GOOD-LUCK IN YOUR STUDENT TEACHING and THANK YOU FOR YOUR PARTICIPATION IN MY STUDY!

APPENDIX C-5 (A Representative Sample)

Ref: C 257/T

Form A

Part III: Please name one thing that you especially like (or dislike) about your student teacher or this class, which you want your student teacher to know.

This is what they say...(Quote!)

SAMPLE

1. I think she explains problems pretty good. She makes mistakes but you've got to make mistakes to get experience. People talk all the time, nothing seems to get done.
2. She talks all the time but she doesn't make any sense. Students are always correcting her. Everything's confusing. Class is boring now.
3. That she shouldn't take everything for granted and should explain things better to the whole class instead of jumping right into homework and should have a different method of credit. She should go over all the problems before she presents them to the class.
4. The thing that I dislike the most was that she was not capable of keeping the class quiet so that the ones who wanted to study couldn't concentrate on their work because of all the noise. She also made a lot of simple addition and multiplication mistakes that were taught in grade school.
5. She doesn't have the personality to be a teacher. And with speaking and teaching doesn't seem qualified.
6. When she gives directions she gets confused and then I get confused because she says one thing and

means another and then it gets to where I don't know what in the --- is going on and that lowers my grade.

7. The way she explains things its hard to understand.
8. Doesn't explain things well enough.
9. The student teacher doesn't have her own style of teaching she is too much like Mr. _____. She has most of the time a lot of control over the class.
10. She should keep her class a little more quiet, but not by just standing and waiting for them to be quiet. Should check work that class is doing more carefully before the class does it.
11. I think you will make a good teacher because your strong in your beliefs, but you make too many mistakes in work up on the board, etc. (Like you don't give in right away when the kids are loud. You keep yelling at them till they're quiet.)

APPENDIX D

STUDENT-OPINION QUESTIONNAIRE--FORM B

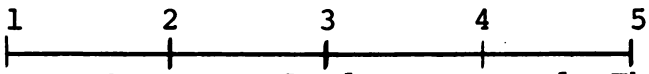
APPENDIX D-1

STUDENT-OPINION QUESTIONNAIRE*

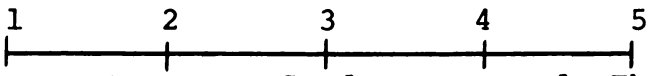
Form B: PLEASE CIRCLE THE NUMBER THAT BEST DESCRIBES YOUR OPINION.

WHEN YOUR STUDENT TEACHER IS TEACHING YOUR CLASS, WHAT IS YOUR OPINION CONCERNING HIS:

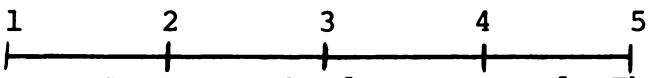
1. KNOWLEDGE OF SUBJECT: How well does he know the subject he is teaching?



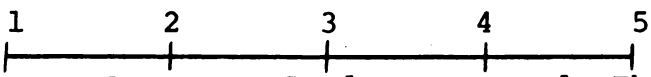
2. CLARITY OF EXPLANATION: How clear and definite are his explanations?



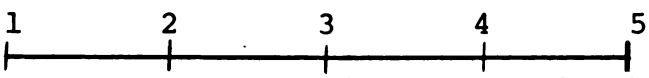
3. FAIRNESS: How fair and impartial is he in his treatment of all students?



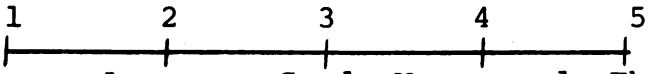
4. DISCIPLINE: How well does he keep good control of the class?



5. ATTITUDE TOWARD STUDENTS: How patient, understanding, friendly, considerate, and helpful is he?

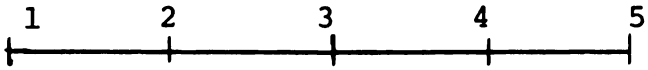


6. ABILITY TO STIMULATE INTEREST: How interesting and challenging is his class?



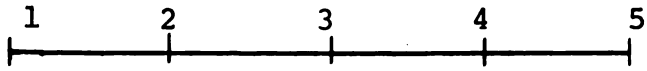
*Adapted from Student-Opinion Questionnaire, Student Reaction Center, Western Michigan University, Kalamazoo, Mich.

7. ATTITUDE TOWARD SUBJECT: How well does he appear to enjoy teaching his subject?



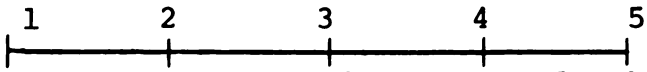
Below average Average Good Very good The very best

8. ATTITUDE TOWARD STUDENT OPINIONS: How well does he accept the ideas and opinions of students?



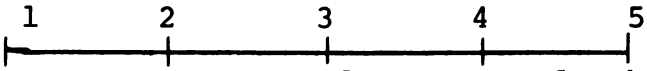
Below average Average Good Very good The very best

9. VARIETY IN TEACHING PROCEDURES: How well does he rate in the use of different teaching methods (for example, student reports, discussions, demonstrations, field trips)?



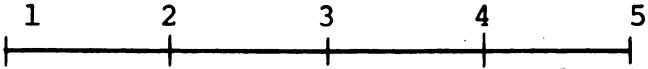
Below average Average Good Very good The very best

10. ENCOURAGEMENT OF STUDENT PARTICIPATION: How well are students encouraged to raise questions, express opinions, and take part in discussion?



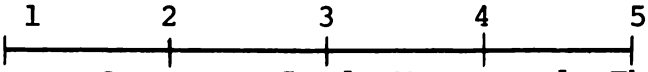
Below average Average Good Very good The very best

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



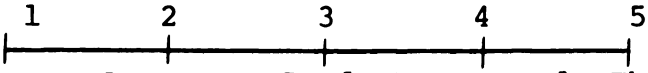
Below average Average Good Very good The very best

12. PLANNING AND PREPARATION: How well are plans made so that class time is used efficiently?



Below average Average Good Very good The very best

13. ASSIGNMENTS: How challenging and reasonable are assignments (out-of-class, required work)?



Below average Average Good Very good The very best

APPENDIX D-2

STUDENT-OPINION QUESTIONNAIRE

Directions to all students for completing the questionnaire:

Please answer the following questions honestly and frankly. Do not give your name. After completing the questionnaire, sit quietly or study until all the other students have completed their questionnaires. PLEASE, NO TALKING.

This is not a "test." There are no right or wrong answers. An answer providing your real opinion is a "correct" answer.

This questionnaire asks about your STUDENT TEACHER, not your regular teacher or substitute teacher. Please answer the questionnaire with your STUDENT TEACHER in mind.

The person, who is in charge of the class during this period, will collect all papers and mail them to the researcher at Michigan State University.

APPENDIX D-3

Dear Student Teacher,

You have been selected to participate in my study "Feedback as a means of changing student teacher behavior" and I much appreciate your cooperation.

Most of us know how we ought to teach or act to become better teachers and promote learning. Sometimes, however, there is a discrepancy between what a teacher thinks he is doing (that is, his intentions) and what he actually does (that is, his actions) or how he is being perceived by his pupils.

Your pupils are completing a Student-Opinion Questionnaire describing their perceptions of you as a teacher. I am interested in your evaluation of self as a teacher, and, therefore, request you to complete this same questionnaire.

I welcome any questions or suggestions for improvement of this study and can be reached at home (Telephone number 355-5963 in the evenings) or at the Student Teaching Office (253 Erickson Hall, Michigan State University, East Lansing, Michigan 48823).

Thank you very much for your cooperation and assistance.

Sincerely,

Irene Wong
Graduate Student
College of Education

Please complete:

Your Name _____ School _____

Number of class periods per week you teach this class _____

Grade of class (completing the questionnaire) _____

Subject taught _____

Date (when questionnaire is completed) _____

APPENDIX D-4 (A Representative Sample)

Student Teaching Office
253 Erickson Hall
Michigan State University
East Lansing, Michigan 48823

Dear Student Teacher,

Thank you much for your cooperation in my study. I would like some "feedback" from you also! Please be frank in answering the following questions.

A Mathematics teacher recently expressed his views of student reaction reports as follows: "To learn how well my students are mastering the fundamentals of Mathematics, I give tests periodically. To learn of the likes and dislikes which develop in students while taking my course I use a Student-Opinion Questionnaire. I am as concerned about my students' attitudes toward me and my teaching as I am about the facts they learn. After all, my efficiency in teaching facts and understanding is conditioned by their emotional reaction to me and my methods. I want to make sure that my students are developing both the attitudes and the background of knowledge that will challenge them to elect and prepare them for additional Mathematics courses in the future."

Do you agree that this is a sound defensible statement? (Please check your answer)

- ■ Yes
- □ No (because)_____
- □ In part (because)_____

Since you were selected to participate in the "treatment" group, that is, you were supplied with reports and analysis of your class perception of your teaching behavior as "feedback," was the "feedback"

- □ Harmful (because)_____
- ■ Helpful (because) I was able to see how the students received what I was doing. I'll be able to change and improve, I hope.
- □ Neither harmful nor helpful (because) _____

If you feel that "feedback" treatment would be helpful to a student teacher, what recommendations would you give me regarding its use. For example: when should the Student-Opinion Questionnaire be administered? (I had planned it to be administered at about the fifth week of student teaching and the summary and analysis of the pupils perceptions returned not later than 10 days from date of administration. Do you feel your pupils are "ready" to evaluate your teaching behavior by the third or fourth week of student teaching?) That depends upon how soon the student teacher begins teaching. Some start immediately. Others wait one or two weeks.

OTHER COMMENTS: After the students have been taught by the student teacher for 3 or 4 weeks they should be ready to evaluate his performance.

APPENDIX E

CATEGORIES FOR THE

FLANDERS SYSTEM OF INTERACTION ANALYSIS

CATEGORIES FOR

THE FLANDERS SYSTEM OF INTERACTION ANALYSIS

Ned A. Flanders

TEACHER TALK	INDIRECT IN-FLUENCE	1.* ACCEPTS FEELING: accepts and clarifies the feeling tone of the students in a non-threatening manner. Feelings may be positive or negative. Predicting or 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, "um hm?" or "go on" are included. 3.* ACCEPTS OR USES IDEAS OF STUDENT: clarifying, building, or developing ideas suggested by a student. As a 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.
	DIRECT IN-FLUENCE	5.* LECTURING: giving facts or opinions about content or procedure; expressing his own ideas, asking rhetorical questions. 6.* GIVING DIRECTIONS: directions, commands, or orders to which a student is expected to comply. 7.* CRITICIZING OR JUSTIFYING AUTHORITY: statements intended to change student behavior from nonacceptable to acceptable pattern; bawling someone out; stating why the teacher is doing what he is doing; extreme self-reference.

*There is NO scale implied by these numbers. Each number is classificatory, it designates a particular kind of communication event. To write these numbers down during observation is to enumerate, not to judge a position on a scale.

STUDENT TALK	8.*	STUDENT TALK--RESPONSE: a student makes a predictable response to teacher. Teacher initiates the contact or solicits student statement and sets limits to what the student says.
	9.*	STUDENT TALK--INITIATION: talk by students which they initiate. Unpredictable statements in response to teacher. Shift from 8 to 9 as student introduces own ideas.
	10.*	SILENCE OR CONFUSION: pauses, short periods of silence and periods of confusion in which communication cannot be understood by the observer.

APPENDIX F

STUDENT-OPINION QUESTIONNAIRE (FORM A)

PREPARED BY THE STUDENT REACTION CENTER,

WESTERN MICHIGAN UNIVERSITY,

KALAMAZOO, MICHIGAN

APPENDIX F-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, considereate, 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.