ABSTRACT
        This paper describes a model that uses interaction
analysis as a tool to provide feedback to a teacher in a
microteaching situation. The author explains how interaction analysis
can be used for teacher improvement, describes the category system
used in the model, the data collection methods used, and the feedback
techniques found in the model. (JF)

JUL 2 1 1972

ED 064799

Interaction Analysis And Supervision

by

Edmund Amidon

Presented at

Supervision of Instruction
Symposium 2:

Observation Systems and the Supervisor
January 27, 1972

Cuyahoga County Instructional Supervision Study
Richard L. Petersohn, Director
7540 Grand Division Avenue
Garfield Heights, Ohio 44125

1

EA 004 474

INTERACTION ANALYSIS AND SUPERVISION

Edmund Amidon - Temple University

Interaction Analysis, a method for studying the classroom, has been widely used for many years in research and teacher training. Recently its potential as tool in teaching skill development has been greatly enhanced by the development of Microteaching and the availability of the Videotape recorder. Interaction Analysis was thought to be a useful technique only in providing feedback to the teacher. Now it can be conceived of as a comprehensive teacher training tool.

Microteaching is actually practice teaching. It is scaled down in that the class, time, teaching objectives and learning objectives are all reduced from what they might be in the typical classroom situation. As microteaching has been used, the videotape recorder has been an important part of most programs of microteaching. It is not necessary however, and its use would depend on the teaching skill being practiced. The age of the student is also not prescribed however, in most microteaching programs, the students have been of either elementary or secondary school ages.

Interaction Analysis was used with teachers as a feedback tool as early as 1959 (Flanders, 1963). The first of Interaction Analysis and Microteaching together seems to have been in 1962, at Temple University, in:The Laboratory on Teacher Role Behavior.

LEARNING THE INTERACTION ANALYSIS CATEGORIES:

It can be said that an adequate knowledge of the Interaction Analysis categories has been acquired when the teacher can easily (1) associate the category number with the behaviors included in the category, (2) recognize the behaviors (by number) as they occur in the on-going classroom interaction, and (3) role play a teacher using specific categories and category combinations upon request. Obviously, the third requirement for learning the Interaction Analysis categories is the most difficult to fulfill, and mastery of the skill involved in producing behaviors that correspond to category numbers serves also as preparation for the Model.

THE CATEGORY SYSTEM:

There have been a number of category systems for analyzing verbal interaction in the classroom. Perhaps the best known of these has been the Interaction Analysis system with its ten categories for analyzing verbal behavior. The category system developed for this Model is a modification of the Interaction Analysis system in which each of the ten categories is divided into subcategories for study in greater detail. (Amidon, Rosenshine, and Amidon 1969, Amidon, 1969).

The Expanded Interaction Analysis System:

In the Model expanded categories in the modified Interaction Analysis system will be used to examine skills to be practiced.

In the Expanded Interaction Analysis system each category is broken down into two to four subcategories that are used to examine the behaviors that fall into each individual category in greater depth and detail. Differences in the ways in which various statements in the same category function in classroom interaction are studied with the expanded system. The Model provides practice in using behaviors that fall into each of the subcategories and an opportunity to study the differences in the effects of each in classroom interaction.

The subcategories that have been developed for the Expanded Interaction Analysis system have come out of attempts to integrate some of the work of Marie Hughes, Hilda Taba, and James Gallagher and Mary Jane Aschner with work done in Interaction Analysis at Temple University in the last few years.

Category 1 - Accepts Student Feelings
    1a - Acknowledge feelings.
    1c - Clarifies feelings.
    1r - Refers to similar feelings of others.

Category 2 - Praises
    2w - Praises with no criteria.
    2 P - Praises with public criteria.
    2 p - Praises with private criteria.

Category 3 - Accepts Student Ideas
    3a - Acknowledge ideas.
    3c - Clarifies ideas.
    3s - Summarizes ideas.

Category 4 - Asks Questions
    4f - Asks factual questions.
    4c - Asks convergent questions.
    4d - Asks divergent questions.
    4e - Asks evaluative questions.

Category 5 - Lectures
    5f - Factual lecture.
    5m - Motivational lecture.
    5o - Orientation lecture.
    5p - Personal opinion lecture.

Category 6 - Gives Directions
    6c - Gives cognitive directions.
    6m - Gives managerial directions.

Category 7 - Criticizes
    7w - Criticizes with no criteria.
    7P - Criticizes with public criteria.
    7p - Criticizes with private criteria.

Category 8 - Predictable Student Talk
    8f - Factual student talk.
    8c - Convergent student talk.

Category 9 - Unpredictable Student Talk
    9d - Divergent student response.
    9e - Evaluative student response.
    9i - Student-iniated talk.

3

Category 10 - Silence or Confusion*

    10s - Silence. There is a period of at least three seconds in which no one is talking.

    10c - Confusion. There is a period of at least three seconds in which more than one person is talking, and it is not possible to hear what a single person is saying.

----

*Note: Category 10, without a subcategory letter, has a conventional use. All coding sequences begin and end with 10, so that a summary matrix prepared from the raw data will balance. It is also used to indicate a change of student when one student interrupts another student who is talking.

USING THE CATEGORY SYSTEM IN TEACHING IMPROVEMENT:

The procedure for using the category system as a data collection instrument and feedback device in teaching skill development differs from its use as an observational technique in the classroom in one respect only - the use of expanded categories for behaviors directly relevant to the objective of the skill session. If the purpose of the skill session is to develop skill in asking several different kinds of questions, for example, teacher question and student answer categories will be divided into sub-categories, while for all other classroom behaviors only the basic Interaction Analysis categories will be used. Praise, for example, would simply be coded by the observer as "2", but questions would be coded 4f, 4c, 4d, or 4e, depending on the type of question. The students' responses would also be differentiated through the use of subcategories.

DETAILED EXPLANATION OF A SKILL DEVELOPMENT MODEL

A few minutes devoted to warm-up activities often make the first skill sessions in the Model go more smoothly. Exercises in role playing similar to those used for learning Interaction Analysis categories may be used as a transition into the skill sessions. For these warm-up exercises participants may group themselves in threes, with one person playing the role of the teacher, one the role of the student, and the third acting as observer. The teacher practices simple interaction sequences (such as 4-8-2), with appropriate student response, and the observer records the interaction categories. After several category sequences have been practiced, the participants change roles until everyone has had an opportunity to play the teacher. An alternative to a general warm-up prior to beginning the "Skits" is to have specific warm-up sessions introducing each skit individually and giving practice in working with the subcategories.

STATING OBJECTIVES:

Many psychologists interested in programmed instruction, along with other researchers, have been trying to impress upon educators the importance of stating objectives in behavioral terms. The argument for behavioral objectives is that if the objective is stated in such a way that the behavior specified in the statement of objectives can be observed directly, then it is possible to determine precisely when the objective has been accomplished and when it has not. Further, when coupled with appropriate methods for data collection and feedback, behavioral objectives can help to make evaluation in any

educational context free from bias and subjectivity.

The method employed in the Model for achieving the requisite specificity in stating behavioral objectives is that of expressing skills to be acquired in terms of Interaction Analysis categories of teacher behavior, categories of other observational systems currently available, or new categories developed in work with the trainee. Teachers are trained in the use of Interaction Analysis or another system of behavioral categories for evaluation of their own attempts to produce specific desired behavioral patterns.

SKILL SESSIONS:

Teaching skill session are sessions in which the participants playing the role of the teacher practices specific classroom behaviors in a Microteaching context. The class size is limited to between five and ten students, and the duration of the lesson is restricted to about five minutes. The content of the lesson is limited as well, and the roles students and teachers are expected to play in the lesson are clearly understood in advance in order to free the teacher to concentrate on developing the specific skill.

Limiting skill sessions in this way is vital to the success of the training program. In a scaled-down Microteaching situation the teacher can focus most easily on specific skills to be developed and, quite significantly, short skill sessions can easily be repeated after feedback has been obtained by the teacher until the skill has been fully developed and made a permanent part of the teacher's repertoire.

DATA COLLECTION:

The nature of the data collection methods employed in a simulated teaching situation determines the nature of the feedback available to the teacher. Consequently, the four kinds of data collection used in the Model constitute an important aspect of the model. They are designed to give as complete a picture of the classroom interaction as possible, and they are complementary to one another. The four data collection techniques employed are as follows:
1. Data expressed in a category system for behavioral observation.
2. Videotape or audiotape recordings of the microlesson.
3. Perceptions of the participants who play the role of the students.
4. Perceptions of the supervisor.
5. Data expressed in a category system using the NonVerbal Interaction Analysis.

Subjective data relevant to the objectives of the skill session are gathered in the form of the perception of both participants who played the roles of students and the supervisor who observed the lesson. These data can help to focus the teacher's attention on the effect of certain behaviors on the class and to explain instances when the teacher's behavior as categorized by the observer does not correspond to his intent.

FEEDBACK SESSION:

Immediate, comprehensive feedback is a significant aspect of the Model. The fou types of data collected during the skill session can be made available to the teacher promptly in a follow-up feedback session led by the supervisor of the training program

Further, because so much objective data are available, the teacher can evaluate his own progress toward developing a specific skill with no need for criticism or negative comment from the supervisor.

The data collected by an Interaction Analysis observer, in particular, are presented to the teacher either in a summary matrix or in basic data sheet form with key codings pinpointed. The supervisor may help the teacher to determine from the data sheet the points at which his behavior in the skill session did and did not coincide with the stated objective of the skill session. The teacher can use the data to determine what further practice sessions are required.

After the teacher is familiar with the Interaction Analysis data, he may wish to have the audiotape or videotape recording played back, so that he can examine certain points in the interaction. The supervisor may help by using notes of his perceptions to focus the feedback session on specific instances of desired or undesired behavior, stopping the tape at appropriate points to discuss the relevant behaviors with the teacher.

Students' perceptions of the effect of the teacher's behavior on the class can be written down and given to the teacher on small slips of paper. These may also help to isolate particular interaction patterns to watch for during the playback of the tape recording.

PRACTICE:

Practice is an essential element in any skill development program. Teachers can determine what further work they require to develop a specific skill during the feedback session with the supervisor. They may then decide to repeat the skill session in its entirety or to modify it so that they can focus on one aspect of the skill they are trying to develop. Data are collected again during the practice session, and feedback sessions are held after each so that the teacher can evaluate his progress and determine the need for further practice.

GENERAL COMMENTS ON USING THE MODEL:

In using the Model we have found that there are a number of considerations relevant to its effectiveness. The following seem particularly noteworthy:

1. This Model cannot be used unless teachers are first trained to use an observational category system such as Interaction Analysis, so that they can understand and interpret data representing teaching patterns they are attempting to develop. While Interaction Analysis is relatively simple to learn, other systems, though more complex, are also useful within this Model, as are such modifications of the basic Interaction Analysis category system as the one included in this Manual. The time involved in training teachers according to the Model is likely to be greater, as a result of the need for pretraining, than that required for earlier programs in either basic Interaction Analysis or Microteaching

2. A second factor to be considered is the motivation of the teacher attempting to improve his teaching skill. To analyze his own teaching and to work intensively on specific teaching behaviors require a good deal of commitment on the part of the teacher. When a teacher, a student teacher, or teaching intern is working in a program in which his participation in the skill development sessions we have described is required by a school district or by a teacher-training institution, motivation is to some extent built into the structure of the

program. A teacher may decide to take part in the program because he wants a particular grade in the course, or because he is being paid by his school district to improve; or he may decide to participate in a program with other teachers on a voluntary basis. In any of these cases, however, he may expect to have support for his efforts from other teachers and administrators. Moreover, the difficulties he encounters in trying out any given skill will probably not be unique; they may be shared with others and worked out by the group. When a teacher is working by himself to develop and refine teaching skills in the day-to-day classroom situation, he may easily become discouraged. On the other hand, a group of teachers who have all participated in a skill development program may, by working together, maintain their interests in a continuing program of teaching improvement based on the Model. Teachers can meet periodically to develop more complex objectives and team up with other teachers to collect interaction data and analyze them for each other.

3. Skill training in this type of modular program may be thought of as artificial in some respects. A number of people have suggested that any kind of skill development program that utilizes a setting in which certain conditions present in the real classroom situation are eliminated has a kind of unreality about it. This may, in fact, be the price one has to pay when he participates in a program designed to isolate teaching skills as specific behaviors that can be practiced and developed to the point at which they can be intergrated into a total teaching style. Data collected on student teachers who had participated in programs at Temple University (Amidon, 1967) and at Ohio State University (Lohman, Ober, and Hough, 1967), which used the basic elements of this Model, have confirmed the potential for transfer of teaching skills into the actual classroom situation, however. Student teachers trained in these programs were found to be more accepting of student ideas and feelings, to ask more broad questions, and to criticize students less frequently than student teachers who had participated in more traditional programs. Their teaching behavior was generally more flexible than that of the control group.

4. The Model outlined here is often alleged to inhibit creativity or free expression in teachers, and some regard this as a real danger. For example, in developing one appropriate listening behavior through reflection or summary of what the other person has said, does the teacher totally extinguish from his repertoire other desirable responses such as spontaneous insight, excitement, or enthusiasm? Questions such as these are raised, and this issue can easily be clarified.

An important objective of training programs developed according to the Model is to free participants from stereotypic reactions to student behaviors. If a teacher or student teacher going through such a training program finds himself stuck in the rut of repeating such phrases as "I guess you're saying...," "I understand how you feel," "You may be suggesting, then..." or "That's very interesting..." then the goals of the training program have certainly not been achieved. The Model has been developed to produce behaviors that are the antithesis of dull repetition of stock phrases.

5. It should be noted that in actual use of the procedures described here the various steps are not always as clear-cut as they may appear to be on paper. In all areas of applied social science models that seem to be useful on paper fail in

practice, and one essential ingredient in the development of training programs based on the Model is the skill of the consultant or supervisor to the program. A skilled supervisor will to a degree tailor the program to the specific needs of the group in order to increase the effectiveness of the skill development program. Before beginning the skill sessions, he will wish to provide ample opportunity for members of the group to express their ideas about what specific training needs they have. As the skill sessions progress, he will be sufficiently sensitive to the situation to know when to adjust the number and kind of practice sessions to the needs of the participants. He should see when it is necessary to shift from one kind of skill session to another or repeat the same skill session. Objectives of any one skill session may be easily met by members of one group, while another group may require a considerable amount of practice and repetition. In any event, practice should continue until the objectives have been met. The supervisor may find it advisable in some cases to go on to a different skill and return to the more troublesome one after some time has passed, or he may get at the problem by suggesting different supplementary skill sessions related to the problem area.

6. A word or two might be said about the qualifications of a skilled supervisor, since extensive general academic training in theoretical and applied behavioral sciences is not a requirement. Teachers and others concerned with education can easily use a training program based on the Model as a first step in short but intensive training to gain the necessary skills to assume the role of supervisor. The supervisor should:

A. Have extensive experience in observing and categorizing classroom interaction, using Interaction Analysis and other behavioral category systems.

B. Have some knowledge of the related research on teaching in order to understand thoroughly the potential as well as the limitations of the Model.

C. Have advanced knowledge of methods of interpreting data representing classroom interaction patterns, in addition to data analysis methods learned in Model training program.

D. Have undergone sufficient training to be able to model (demonstrate) any of the skills that may be developed in a training prgram that he supervises.

7. Advantages of the Model: Many questions that have been difficult to answer in teacher education seem answered by either microteaching or Interaction Analysis. Either method by itself leaves room for improvement. The Skill Development in Teaching model combining Interaction Analysis and Microteaching provides a framework for increasing almost any verbal or non-verbal teacher skill.

A. Specification of teaching behaviors to be learned.

Both verbal and non-verbal behaviors can be identified for practice in microteaching sessions. This can be done objectively using the Interaction Analysis system both to "model" the behavior and also to access its production.

B. Objective assessment of behavior.

The Interaction Analysis is a procedure that according to numerous studies indicates very high reliability (in observer agreement). A trained observer acting as a supervisor will rarely make an error in assessing the the skill the teacher is trying to develop.

C. Self evaluation of teaching skill.

The teacher himself, once he has learned Interaction Analysis is able to determine whether he has been able to use a specific teaching behavior. By using the video or audio tape playback of his micro-teaching, a teacher can evaluate his own attempts to develop a specific teaching skill.

D. Step by step development of skills.

The program provides practice at first in very simple uses of teaching behavior. When the teacher understands the behavior, i.e., he is able to produce it and distinguish it from other teacher behaviors then he practices the behavior in a microteaching session.

E. Psychological safety in skill development.

The Skill Development in Teaching Program provides a degree of safety and freedom from threat that are not possible in the real class-room. This is necessary in the development of any skill - but particularly crucial in anything complex as human communication skills.

F. Clear definition of role for the supervisor.

The use of Interaction Analysis and microteaching gives the supervisor a role that frees him from the traditional role of evaluator. The role becomes one of data collector. He also can help focus the teacher on what he feels are the critical points in the lesson.

G. Clarification of discrepencies involved in the development of a skill.

An example of this was seen recently when a number of teacher educators were seeing a demonstration of the model. The Interaction Analysis (Verbal) indicated that the teacher had achieved the objectives for the microteaching. This was a model involving the use of category three. The data collected from the students indicated that several students were uncertain about whether student ideas were being accepted. Further, a Nonverbal Interaction Analysis would indicate that the teacher was not completely congruent while accepting ideas verbally. Certain non-verbal behaviors that teacher used while using verbal acceptance were not accepting. Some of these such as a hesitance in tone of voice, turning away as a student is speaking, and lack of eye contact were observed by s student acting as non-verbal observer. The audio and videotape replay offered further evidence that the teacher needed further practice in the use if this category.