ANALYSIS OF VERBAL BEHAVIOR OF BEGINNING HOME ECONOMICS TEACHERS AS A BASIS FOR RECOMMENDATIONS FOR INSERVICE EDUCATION

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Submitted to the faculty of the Graduate College
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in partial fulfillment of the requirements
for the degree of
DOCTOR OF EDUCATION
May, 1968

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ACKNOWLEDGMENTS

The writer wishes to express sincere appreciation to Dr. June Cozine, Head of the Department of Home Economics Education, for her excellent guidance, interest, encouragement and assistance in this study.

Appreciation also is expressed to the other committee members, Dr. Elizabeth Hillier, Professor of Home Economics Education, and to Dr. Ware Marsden, Director of Teacher Education, for their cheerful words and guidance.

Recognition is due to the beginning home economics teachers who cooperated by making the writer feel welcome in their classrooms.

Special recognition is due to the General Foods Company for the fellowship which enabled the writer to do the graduate study.

The writer wishes to thank her many friends and fellow students for their patience and encouragement while she was working on the study.

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CHAPTER I

INTRODUCTION

Significance of the Problem

Education is a life long process of acquiring and using knowledge. Today's world is rapidly changing, which makes continuous learning for all a necessity for a happy full life. Teachers in this changing world need to be well qualified and well trained so that they can make a real contribution to the individual student as well as to the whole society.

In recent years, many people have become very concerned over the quality of education being received by students in the public schools. The quality of education is a reflection of the quality of teaching being done in the classrooms. Teacher educators are searching for ways in which to improve teacher education, so that teachers will be able to do a better job of what society expects of them. At the present time, the majority of colleges and universities have a four-year program for teacher education. As recent literature is read, one finds that many educators agree that a teacher cannot be adequately prepared in the type of four-year programs which are now in practice. Suggestions have been made for different ways of extending the period of time for teacher education.

Supervised inservice education for beginning teachers is one way to supplement the four-year program. An inservice program specifically designed for a selected group of teachers who have similar needs seemed to this writer to be one important way of increasing teacher competence in various areas. This makes it possible for her to continue learning while on this job. Often times, problems or ideas become meaningful only after one begins the actual teaching; whereas in the methods class, the idea may have had little or no meaning. "Learning theory tells us that we learn most effectively when we are involved, when we participate actively in discussing and using ideas."[1] Problems studied through inservice education can provide for continuous growth if the problems chosen for study are meaningful to the teacher. Rivlin states: "Unless adequate provision is made for professional growth, teachers can become less effective with the passage of time rather than remain on the level of effectiveness of beginning teachers."[2]

What type of problems should be incorporated into inservice education for beginning teachers? The best answers to these questions can be found after some preliminary studies are done which show what beginning teachers are now doing in the classroom. That a great many competences are needed for effective teaching has been pointed out in

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[1]William D. Hedges, "Is Talking Teaching?", Clearing House, XKI (1957), p. 334.

[2]Harry N. Rivlin, "A New Pattern for Urban Teacher Education," Journal of Teacher Education, XVII (1966), p. 181.

studies by Anderson, Barr, Gage, Ryans, Mitzel, Medley, and many others.[3] No one, however, has come up with an adequate listing of competences or criteria for effective teaching. Recently, home economics educators have been having conferences for the purpose of developing a list of competences for beginning teachers. A conference at the University of Nevada in 1964 listed seven competences believed to be necessary for beginning home economics teachers. They are:

1. Integrates philosophy of life, philosophy of education and philosophy of home economics as a basis for thought and action.

2. Identifies and accepts the professional role of the home economics teacher.

3. Establishes and maintains mutually satisfying or acceptable interpersonal relationships in the professional environment.

4. Plans and implements effectively the part of the home economics program for which she is responsible.

5. Teaches effectively.

6. Uses and participates in research.

7. Cooperates as a home economics teacher-citizen in local and expanded community efforts which have significance for individual and family well-being.[4]

In the fall of 1966, another conference was held at the University of Nebraska to revise these competences. The final report of this conference is not yet available.

Educators in many different fields of study feel that it is necessary to know what is effective teacher behavior which brings

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[3]A. S. Barr. Wisconsin Studies of the Measurement and Prediction of Teacher Effectiveness, A Summary of Investigations, (Madison, Wisconsin, 1961).

[4]Julia I. Dalrymple, "Concepts Structuring of Home Economics Education Curriculum," Journal of Home Economics (1965), pp. 431-433.

about maximum student learning. Biddle states: "...the problem of teacher effectiveness is so complex that no one today knows what The Competent Teacher is."[5] He goes on to say that more research is needed and ideally the best method to use is the direct observation of the teachers working in the classroom.

One of the criteria which has appeared in many of the studies has been related to communication or verbal behavior in the classroom. Verbal interaction takes place within the classroom between the teacher and students. According to studies conducted by Flanders, during two-thirds of the time spent in the classroom, someone is talking, and two-thirds of that time is used by the teacher.[6] From these studies, one can see that a large portion of teaching behavior is mostly verbal in today's classrooms.

Since teaching does consist of so much verbal behavior, it seemed logical to this writer that the study of verbal behavior of beginning home economics teachers might be valuable as an aid in planning more effective programs in teacher education. Home economics teachers, due to the many different types of subject matter taught, need to use many different methods of presenting information to a class. In searching the literature, no studies were found related to the verbal behavior of home economics teachers. For these reasons, the writer chose to study the verbal behavior of beginning teachers in home

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[5]Bruce J. Biddle, "The Integration of Effectiveness Research," Contemporary Research on Teacher Effectiveness, ed. Bruce J. Biddle and William J. Ellena (Chicago, 1964), pp. 1, 23.

[6]Ned A. Flanders, "Intent, Action and Feedback: A Preparation for Teaching," Journal of Teacher Education, XIV (1963), p. 252.

economics. The findings of the study could be used as a basis upon which to make some recommendations for inservice education relating to improving verbal behavior in the classroom.

Statement of the Problem

The main purpose of this study is to observe the verbal behavior of first and second year home economics teachers in light of the criteria established by Flanders through the use of the Interaction Analysis System as a basis for developing recommendations for inservice education. The study will help determine how beginning home economics teachers who are graduates of Oklahoma State University compare to the more effective teachers in other studies of verbal behavior on some of the recommended verbal behavior of teachers. From analysis of findings based upon observations and an interview, recommendations for supervised inservice education will be suggested which will help a teacher become more effective in the use of verbal behavior in the classroom. More specifically the objectives of the study are:

1. To become familiar with research relating to strengths and weaknesses of beginning teachers, inservice education, interaction analysis, and ways of improving verbal behavior of teachers.

2. To become familiar with the interaction analysis system of observation.

3. To find out the strengths and weaknesses related to verbal behavior which beginning teachers perceive beginning teachers to have.

4. To identify some of the strengths and weaknesses of first and second year home economics teachers who are graduates of Oklahoma State University in home economics education and who are teaching in Oklahoma.

5. To determine if patterns of strengths and weaknesses will be found among the first year teachers and among the second year teachers; or if a general pattern for both first and second year teachers will develop.

6. To make available to each teacher in the sample a matrix with a written interpretation which will help her determine her strengths and weaknesses and thus she will be able to improve her verbal behavior in the classroom if she so desires.

7. To make recommendations for inservice education for beginning home economics teachers based upon the weaknesses identified in the study.

Delimitation of the Study

This study was limited to the observations of verbal behavior of graduates of Oklahoma State University in home economics education who were in their first or second year of teaching. It was also limited by the type of units being taught in the high school classrooms during the period from April 15 to May 15, 1967. Observations using Interaction Analysis were limited to discussion type classes. Another limitation was the degree to which the investigator as an observer disturbed the regular, normal classroom situation. The proficiency of the observer in using Interaction Analysis was also another limiting factor; perhaps another person could have been a better observer. The fact that the observer did three consecutive twenty minute observations on the same day may not have given quite as true a picture of the verbal behavior in the classroom as would

observations taken over a period of several days. The study was also limited by the specific sample. This sample could not be taken as representative of the total population.

Definition of Terms

Since words mean different things to different people, the terms used frequently throughout this study will be defined in light of their use. Some of the terms will be further explained in the chapter entitled, "Theoretical Background."

1. Beginning Teacher—Teachers who have completed a degree in teacher education and are experiencing their first or second year of teaching.

2. Classroom Climate—The generalized attitude toward the teacher and the class that the pupils share in common in spite of individual differences. The development of this attitude is an outgrowth of classroom social interaction.[7]

3. Direct Influence—This concept refers to actions taken by the teacher which restricts student participation. Expressing one's own views through lecture, giving directions, and criticizing with the expectation that the students will comply.[8]

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[7]Ned A. Flanders, "Teacher Influence, Pupil Attitudes and Achievement, Final Report," Cooperative Research Project 397, U. S. Office of Education (1960), p. 6.

[8]Ned A. Flanders, "Intent, Action and Feedback: A Preparation for Teaching," p. 251.

4. Indirect Influence—Actions taken by the teacher which encourage and support student participation. Accepting, clarifying, praising, and developing the ideas and feelings expressed by the students.[9]

5. Inservice Education—The activities of employed teachers that contribute to their professional growth and qualifications.[10]

6. Interaction—The sequence of teacher pupil contacts that occur spontaneously in the classroom.[11]

7. Interaction Analysis—The teacher's behavior is recorded as a series of acts over a time scale, and the reactions of the students to these acts are also recorded. When this process is done systematically by a trained observer, it is called Interaction Analysis.[12]

8. Teacher Effectiveness—This is the degree to which the teacher produces the effects toward which the teaching is or should be directed. Also the extent to which the teacher causes the attainment of educational objectives by the students is a part of teacher effectiveness.[13]

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[9] Ibid.

[10] Carter V. Good (ed.), Dictionary of Education. New York: (1959), p. 550.

[11] Ned A. Flanders, "Teacher-Pupil Contacts and Mental Hygiene," Journal of Social Issues, XV (1959), p. 30.

[12] Ibid.

[13] Marguerite Scruggs, "Criteria of Teacher Effectiveness," American Vocational Journal, XXXVII (December, 1961), p. 23.

9. Verbal Behavior—This is the communication and interaction which goes on in the classroom through the choice of words, the tone of voice and the inflection of the voice.

Procedures

The procedures used in carrying out this study follow:

1. The observer, using tapes and actual classroom situations, practiced the method, Interaction Analysis, of recording verbal behavior. Interaction Analysis will be fully explained in Chapter II.

2. The first and second year teachers who were teaching in Oklahoma and who were graduates of Oklahoma State University were contacted through the mail and invited to participate in the study if they had discussion type classes going on between April 15 and May 15, 1967.

3. The twelve teachers who were having discussion classes were visited and appointments were set up for observations of their classes.

4. The classes were visited and observed. The observations were recorded using Interaction Analysis.

5. The teachers were interviewed and asked about their own beliefs about their verbal behavior in relation to the categories of Interaction Analysis.

6. The observations were recorded on a matrix for interpretation. The questions which could be answered and compared follow. The questions were answered for each individual teacher, interpreted and mailed to her. Then the data was combined into two groups—first year teachers and second year teachers.

1. Do I do too much of the talking in the classroom?

2. Am I typically a direct or indirect teacher?

3. How do I react to student verbal behavior?

4. How much time do I spend in lecturing?

5. Do I spend enough time in the extension of student ideas?

6. Do students tend to resist my influence?

7. Do I accept, clarify, and use student emotion?

8. How effectively do I use praise?

9. How effective am I in communicating subject matter to my pupils?

10. How effectively do I use criticism in my teaching?

11. Is there adequate pupil participation in my classroom?[14]

The percentage of teacher talk and the percentage of student talk was figured. An indirect versus a direct ratio was also figured. Buildups in certain cells which will be explained in Chapter IV were also found and interpreted.

As the studies which follow in the next chapter indicate, a teacher who is more indirect in verbal interaction with students will have students who learn more effectively and have better attitudes. From the analysis of the data, it was found that all of the teachers were much more direct than indirect in their interaction with the students. The second year teachers were a little more direct but the difference was not significant.

Inservice education based upon this broad general finding should be planned in such a way as to help the teachers become more indirect in their interaction with students. The technique, Interaction

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[14]Edmund Amidon and Ned A. Flanders. The Role of the Teacher in the Classroom. Minneapolis (1963), pp. 44-49.

Analysis, if learned and practiced would help the teacher evaluate herself. If the teacher recognizes and accepts her weaknesses and is willing to evaluate herself, very likely she can become more indirect in her approach and become a more effective teacher.

CHAPTER II

THEORETICAL BACKGROUND

Interaction Analysis

The major technique used in this study was Flanders System of Interaction Analysis which is a procedure used in observing and classifying verbal behavior in the classroom. As teachers guide the learning experiences of students, they interact with the students both as individuals and as a group. Sometimes the teachers are aware of the influence they are exerting, but many times they are unconsciously influencing the students. Many teachers do not have much knowledge about the ways in which they are influencing the students. To find out about their own behavior in the classroom, teachers can participate in studies of their own behavior patterns. One helpful technique they can learn to use is Interaction Analysis. According to Flanders: "As a training tool, interaction analysis provides the teacher with relatively objective data about his own behavior."[1] After the self study, many teachers decide they want to change some of their behavior patterns. Teachers themselves have to desire to bring about changes.

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[1] Ned A. Flanders. "Using Interaction Analysis in the Inservice Training of Teachers," Journal of Experimental Education, XXX (June, 1962), p. 314.

The bringing about of change takes time, effort, and a willingness to look at oneself.[2]

Amidon and Flanders have stated, "The key to developing more effective classroom verbal behavior is the opportunity to experiment with and practice desired communication skills."[3] Through the use of tapes or working with other teachers, evaluation of verbal behavior can be made; and the teachers can see themselves as they are in the classroom. After the writer set up her research project, new tools for studying Interaction Analysis became available. These tools include a training tape, a training tape manual, and a tally-matrix worksheet packet.[4] Since the influence of the teacher in a learning situation is so important, knowledge about individual methods of interaction are valuable.

In Interaction Analysis, teacher statements are classified as either indirect or direct. This shows the amount of freedom the teacher gives to the student. There are seven categories used to classify teacher statements. The categories one through four are related to indirect teacher influence, and categories five through seven are related to direct teacher influence. Flanders defines these influences in this way:

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[2]Edmund Amidon and Ned Flanders. The Role of the Teacher in the Classroom.

[3]Ibid.

[4]Interaction Analysis Training Kit—Level 1. Minneapolis: Paul S. Amidon and Associates, Inc.

> Direct influence by a teacher restricts the freedom of action of a student by setting restraints or focusing his attention on an idea. Indirect influence by a teacher increases the freedom of action of a student by reducing restraints or encouraging participation.[5]

Student talk is also classified, and a third section is entitled silence or confusion. So all statements which occur in the classroom are categorized into one of three major sections—teacher talk, student talk, silence or confusion. The sections teacher talk and student talk are then subdivided as the summary form shows.

Teacher Talk	Indirect Influence	1. Accepts Feelings.
		2. Praises or Encourages.
		3. Accepts or Uses Ideas of Student.
		4. Asks Questions.
	Direct Influence	5. Lectures.
		6. Gives Directions.
		7. Criticizes or Justifies Authority.
Student Talk		8. Response.
		9. Initiation.
		10. Silence of Confusion.[6]

Indirect teacher behavior consists of the first four categories of teacher talk. These can be explained as follows:

1. Accepts Feelings. A teacher by her statements shows she understands how the student feels. This category is related to the expressed emotional feelings of a student which can be heard in the classroom.

2. Praises or Encourages. Jokes that release tensions are included here. Words such as "good," "fine," "right," and "continue" all fall into this category.

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[5]Ned A. Flanders. "Teacher Influence, Pupil Attitudes, and Achievement, Final Report."

[6]Amidon and Flanders. Role of the Teacher in the Classroom.

3. Accepts or Uses Ideas of Students. The teacher uses student suggestions and ideas. She may restate the idea or summarize what the student has suggested. The observer needs to think "Is the idea that the teacher is now stating the student's or is it the teacher's?"[7]

4. Asks Questions. This category includes only questions to which the teacher expects an answer from the pupils.

The next three categories make up direct teacher behavior. They can be explained as follows:

5. Lectures. This category is used when the teacher is giving information, facts, opinions or ideas to the students. If new material is being introduced or emphasis is being given to an important idea, this category is used.

6. Gives Directions. Directions, commands or orders are being given to the students, and the students are expected to comply.

7. Criticizes or Justifies Authority. A statement of criticism is one designed to change student behavior from nonacceptable to acceptable. If the teacher is using statements of defense or self-justification, this category is used.

Student talk makes up the next two categories, eight and nine.

8. Response. This category is used when the teacher has asked for responses from the class. The teacher may ask a question or require a verbal response to a direction.

9. Initiation. If the student raises his hand to make a statement or ask a question, this category is used. The observer needs to think in terms of the general kind of answer that the student will

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[7] Ibid, pp. 6-12.

give in response to a question asked by the teacher. If the answer is one that is of a type predicted by the observer, then the statement comes under category eight. If the response is different from that which is expected for the question, then category nine is used.[8]

Category ten includes anything else that is not included in the other categories. When it is difficult to know who is talking, if there are periods of confusion of if there are periods of silence, category ten is used.[9]

When using Interaction Analysis, an observer sits in the classroom and at the end of each three-second period records a number which best represents the verbal behavior which has taken place. Approximately twenty numbers are written per minute so that several long columns of numbers will be recorded during a twenty minute period. A twenty minute observation period is recommended since a shorter period would not include a typical pattern of verbal behavior. It is usually best for the observer to spend five to ten minutes getting oriented to the situation before beginning to categorize the behavior. This gives the observer opportunity to get the feel of the classroom. Marginal notes can also be made to aid the observer in remembering what is happening in the classroom.[10]

The observer needs to have a thorough knowledge of the technique before using it. The categories need to be studied and memorized.

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[8] Ibid, pp. 6-12.

[9] Ibid.

[10] Ibid, p. 13.

Tapes and classroom situations can be used in practicing the use of the categories. The same tape used over and over can be an aid to becoming consistent in recording. The manuals which are available and explain the technique should also be familiar to the observer so that he will be able to do an accurate and consistent job of recording the actual verbal behavior which is going on in the classroom.

Flanders System of Interaction Analysis has been used by many and continues to be used by many in the study of verbal behavior of teachers. This system is based upon the following assumptions:

1. A teacher can be helped to define more accurately his own concept of desirable or ideal teacher behavior and subsequently to modify his behavior in the direction of that ideal.[11]

2. The verbal behavior of an individual is an adequate sample of his total behavior.[12]

Medley and Mitzel in the Handbook of Research on Teaching state: "It seems safe to say that almost any research on teaching and learning behavior can benefit by the use of direct observation of the behavior and that in many instances such observations are of crucial importance."[13] Direct observation is the main factor in Interaction Analysis.

Interaction Analysis was designed by Flanders in the early 1950's to relate children's attitudes to patterns of teacher behavior. Since then, Interaction Analysis has been used in teacher education programs

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[11] Ibid, p. 1.

[12] Ibid, p. 5.

[13] Donald Medley and Harold Mitzel, "Measuring Classroom Behavior by Systematic Observation," Handbook of Research on Teaching, N. L. Gage (ed.), Chicago: Rand McNally and Co. (1963), p. 247.

at colleges and universities in New Jersey, Wisconsin, Ohio, Illinois, New York, Pennsylvania, Oregon, and others.[14]

Much of the research relating to teacher behavior today has been built upon early research done by H. H. Anderson in 1939, 1945, and 1946. These studies were based on the observation of "dominative" and "integrative" behavior of teachers. By dominative behavior, he meant the ways in which a teacher controls the classroom situation; by integrative behavior, he meant the ways in which a teacher tries to get students to synthesize, and to integrate what they learn. He and his colleagues carried out a series of projects with preschool, primary school and elementary school children.[15]

Several findings came out of these studies which were found to be significant and also consistent with later studies. These findings have been followed in general ways by most who have done research on teacher behavior since that time.[16]

First, the teacher sets the pattern of behavior that spreads throughout the classroom. The teacher sets the climate for the classroom. If domination predominated, it stimulated more domination; if integration predominated, it stimulated more integration. This behavior pattern existed even if the teacher was not in the room. The pattern the teacher developed in one year was likely to be continued

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[14]Edmund Amidon, "Interaction Analysis and Its Application to Student Teaching," Theoretical Basis for Professional Laboratory Experiences in Teacher Education. Association for Student Teaching, Dubuque, Iowa: Wm. C. Brown Co., Inc. (1965), p. 87.

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

[16]Amidon and Flanders, The Role of the Teacher in the Classroom.

the next year even though the students were a different group. When the teacher had a high proportion of integrative contacts, the students showed more spontaneity and initiative, voluntary social contributions and contributions to problem solving. Students, whose teachers had a high proportion of dominative contacts, were more easily distracted from school work, showed greater compliance to, as well as rejection of, teacher domination. Anderson concluded that teachers who employed an above average pattern of domination created an atmosphere that was less conducive to satisfactory social adjustment and effective school work as compared with classrooms in which an above average integrative pattern was used.[17]

Another study somewhat similar to Anderson's was carried out by Lippitt and White in laboratory experiments which were organized to analyze the effects of adult leaders' influence on boys' groups. The leaders were trained through role playing so that their behaviors would be consistent during the study. The leaders were divided into "authoritarian leadership," "democratic leadership," and "laissez-faire leadership." The authoritarian leadership was similar to Anderson's dominative contacts, and the democratic leadership was similar to the integrative contacts. The laissez-faire leadership consisted of irregular and infrequent integrative contacts with a lack of adult initiative. Even though the study was not carried out in a classroom, the climate of the group was an important factor on individual and group behavior. An important finding in this study was that group

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[17]H. H. Anderson.

members in a democratic social climate were friendlier, were more group-minded, and work-minded. They showed greater initiative, and a higher level of frustration tolerance than did members of laissez-faire and authoritarian groups.[18]

Based upon these earlier studies, several researchers began to think more in terms of observing teachers in the classroom. However, it was being discovered that it was impossible to evaluate teaching by just watching the teacher teach. A scheme, schedule, or checklist of some type had to be used if this observation was going to be valuable.[19]

Withall, in 1949, developed a complex technique for assessing the social emotional climate of the classroom. He used seven categories of teacher statements: learner-supportive, acceptant, problem-structuring, neutral, direction, reproving, and self-supporting.[20]

In 1958, Medley and Mitzel, using some of the ideas of Withall, developed a very comprehensive system for cataloguing teacher-pupil interaction, class structure, and classroom activities, and materials. They identified three factors through the use of their technique called Observation Schedule and Record (OScAR). The three factors were

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[18]Kurt Lewin, R. Lippitt, and R. K. White, "Patterns of Aggressive Behavior in Experimentally Created 'Social Climates'," Journal of Social Psychology, X (1939), pp. 271-299.

[19]Walter B. Waetjen, "Recent Analyses of Teaching," National Association of Secondary School Principals' Bulletin (December, 1966), p. 18.

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

emotional climate of the classroom, verbal emphasis, and social organization.[21]

Flanders System of Interaction Analysis which has previously been explained has been found to be one of the easier techniques to use in classroom observations and the study of teacher-student interaction. He has conducted many studies using it and many others have used the technique in different ways.

In 1960, Flanders under the sponsorship of the U. S. Office of Education, conducted a study entitled "Teacher Influence, Pupil Attitudes, and Achievement." Different classes in mathematics and social studies were studied over a period of two years. Based upon achievement scores of students, the teachers were categorized as average or below average. One of the major conclusions found was that average teachers differed from below average in flexibility. The average teacher could be just as direct as the below average in certain situations, but they were able to change rather easily from direct to indirect behavior. They were able to vary their behavior to match the class needs. Teachers in the high-scoring classrooms were found to use praise and encouragement more. They clarified the ideas of students when new material was being introduced twelve times more frequently in the social studies classes and five times more frequently in the mathematics classes than did the teachers of the low-scoring classes.[22]

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[21]Donald Medley and Harold Mitzel, "A Technique for Measuring Classroom Behavior," Journal of Educational Psychology, XLIX (April, 1958), pp. 86-92.

[22]Ned A. Flanders, "Teacher Influence, Pupil Attitudes and Achievement, Final Report." pp. 80-109.

Another research effort by Flanders and Amidon studied the effects of direct and indirect teacher influence on dependent-prone students in a geometry class. This was a laboratory study of 140 eighth grade students. The students were randomly assigned to one of the following experimental treatments: direct teacher influence with clear goals, direct teacher influence with unclear goals, indirect teacher influence with clear goals, and indirect teacher influence with unclear goals. No differences were found between clear goal and unclear goal treatments. An analysis of the direct and indirect teacher treatments indicated that the children taught by the indirect teacher learned more than did the children taught by the direct teacher.[23]

Kirk in a study done in 1964 found that the teaching pattern of elementary school student teachers who had been taught the Flanders system could be changed. The student teachers taught the system encouraged more pupil-initiated talk, gave fewer directions, and did not use the teacher question and pupil response as much as those who were not taught the system.[24]

In reviewing the studies selected, it can be seen that teacher behavior was identified as being a very important factor in promoting learning. Now, studies and ideas pertaining directly to communication and verbal behavior will be revealed. Flanders stated: "Most teacher

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

[24]Jeffry Kirk, "Effects of Teaching the Minnesota System of Interaction Analysis to Intermediate Grade Student Teachers," Dissertation Abstracts, XXV (1964), p. 1031.

influence is exerted by verbal statements, and to determine their quality is to approximate total teacher influence."[25]

There are three types of verbal behavior used in teaching according to Meux and Smith. In one type the speaker intends to instruct, elicit responses, explains and defines, and expects the student to remember and be able to restate the information. A second type of verbal behavior is used in telling students how to perform some operation or skill; the student is expected to learn the skill or operation and use it. The third type of verbal behavior takes place when the teacher praises, comments, disapproves, reprimands or advises. This type of verbal behavior has an emotional effect upon the students.[26]

Thelen in writing about the preparation of teachers in the future states:

> The present notion is that accurate communication of any, but the simplest most objective facts requires "two-way" communication. "Telling" is not communication. The teller must be guided by continuous feedback so that he can modify his delivery, pace, level of abstraction, language, and so on as required to maintain comprehension of the listener.[27]

Hedges asks the question: "Is talking teaching?" As he discusses this question he takes a look at learning theory and writes:

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[25]Flanders, "Intent, Action and Feedback: A Preparation for Teaching."

[26]Milton Meux and B. Othanel Smith, "Logical Dimensions of Teaching Behavior," Contemporary Research on Teacher Effectiveness, Bruce J. Biddle and William J. Ellena (editors), (Chicago, 1964), p. 130.

[27]Herbert Thelen, "Preparation of Teachers in the Future," Improving Instruction in Professional Education, (Dubuque, Iowa), (1958), p. 93.

> When the teacher is doing most of the talking, the classroom is teacher centered, teacher directed, teacher dominated...The teacher is at the center of the stage and hence is often doing most of the learning. He is doing most of the learning because he is the one who is the most involved in the whole process. Learning theory tells us that we learn most effectively when we are involved, when we participate actively in discussing and using ideas.[28]

Does the verbal behavior of teachers affect the learning which goes on in the classroom? Amidon and Giammatteo decided to explore this idea. They posed the question—"Are certain patterns of verbal behavior characteristic of superior teachers?"—and set up an experiment to test the question. Their sample consisted of 153 elementary school teachers in a suburban area. Administrators and supervisors were asked to identify the superior teachers in their districts. Thirty-three superior teachers were identified and 120 were listed as average teachers. All 153 teachers were observed by a trained observer using Interaction Analysis. The observer categorized the verbal behavior of teachers and students during the language arts period. The interaction patterns of the average teachers and the superior teachers were compared. The results of the study indicated that the verbal-behavior patterns of superior teachers differ from average teachers. The superior teachers talked about forty per cent of their total class time, while the average group talked about fifty-two per cent of the time. The superior teachers were more accepting of pupil-initiated ideas, tended to encourage these ideas more, and

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[28]Hedges.

made a greater effort to build on these ideas. The superior teachers used indirect verbal behavior more. They used direction-giving and criticism less. The superior teachers asked questions that were broader; and their lectures were interrupted more by questions from the students. There was about twelve per cent more student participation in the classes of the superior teachers. All of these results seem to indicate that there are differences in the verbal behavior of superior teachers.[29]

Selected Theoretical Bases and Concepts Related to Teacher Behaviors

Everyone who is a teacher has a theory of learning which guides him as a teacher. Recently educators have become interested in studying theories of teacher behavior; theories of instruction and of teaching.

Ryans in the 1965 Association for Student Teaching Yearbook lists several purposes of a good theory:

> Theory is useful to the researcher and the practitioner alike in that it: (a) shows how available information in an area is organized; (b) seeks to predict events and relationships and to bring to light propositions that may describe new relationships; (c) is selective and directive with respect to observation, narrowing the range of events investigated and helping to define the facts that are relevant to a particular area of problem; (d) summarizes

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[29]Edmund Amidon and Michael Giammatteo, "The Verbal Behavior of Superior Teachers," Elementary School Journal, LXV (February, 1965), pp. 283-285.

> facts, going beyond the single observation, abstracting, and generalizing the common element of classes of related facts.[30]

Ryans' theory is referred to as an information processing-information forwarding system model. This model emphasizes three characteristics of teacher learning: the system nature of, and interdependence of conditions and operations influencing teaching-learning; the information processing nature of what goes on when a teacher or coordinator of instruction reaches decisions and plans programs or instructional materials or behavior; and the information exchange involved in all instruction.[31]

Bush in explaining a schema for teacher education talks in terms of four essentials in teaching: aim, content, method, and evaluation. He believes that during the first few years of teaching a teacher learns his role, internalizes the basic values of the teacher's culture, forms his conceptions, and standards which will influence his behavior for years to come.[32]

A perceptual view of effective teaching is the way in which Combs sees teacher behavior. The basic concept of perceptual psychology is that all behavior of a person is the direct result of

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[30]David G. Ryans, "Theory Related to Teacher Effectiveness as Applied to Teacher Behavior," Theoretical Basis for Professional Laboratory Experiences in Teacher Education. Forty-fourth Yearbook, (Dubuque, Iowa), (1965), p. 5.

[31]David G. Ryans. Characteristics of Teachers. Washington: American Council on Education (1960).

[32]Robert N. Bush, "A Schema for Teacher Education," Teacher Education: A Reappraisal, Elmer R. Smith (ed.) Evanston, Illinois: Harper and Row (1962), p. 183.

his field of perception at the moment of his behaving. A person's behavior at any time is the result of how he sees himself, how he sees the situations, and the interrelation of these two.[33]

In 1960, Smith proposed in an article entitled "A Concept of Teaching" that a teacher's perception of a pupil's behavior leads to a teacher's diagnosis of the pupil's state of interest, readiness and knowledge. This diagnosis then leads to actions taken by the teacher. At the same time the student through his perceiving of the teacher's behavior is leading to a diagnosis of the teacher's state of interest. The student then reacts to the actions of the teacher. This process ultimately leads to pupil achievement if the goals of the teaching are being realized.[34]

Another theory for teacher behavior and pupil interaction has been set up by Cogan. His model looks like this:

The behavior of teachers as perceived by the pupils	→ influences the nature and extent of	→ motivation of pupils, communication of pupils, classroom experiences of pupils	→ which may instigate
pupil behavior	→ resulting in	→ pupil change.[35]	

Conant entitled his address at the joint meeting of the National Society of the College Teachers of Education and the Association for

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[33]Arthur W. Combs. The Professional Education of Teachers. Boston: Allyn and Bacon (1965), pp. 10-23.

[34]B. O. Smith, "A Concept of Teaching," Teachers College Record, LXI (1960), pp. 229-241.

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

Student Teaching in 1964 "The Theory and Practice of Teaching: Further Consideration." In this address he presented his suggestions for the blending of theory and practice in the education of American teachers. He suggested that the training of teachers be divided into three segments. The first segment would be the four-year undergraduate program with practice teaching and the clinical professor playing an important role. The second segment would be called an induction period which would be a probationary period as a full-time teacher. During this period, the teacher would be educated and assessed by the school in which he is teaching. He would be assisted in learning the relation of theory and practice to specific problems. The third segment would be the graduate masters program in which theory is the predominant factor. This segment could be worked on during the induction period in summer school. The program should be planned to meet the needs of this individual teacher.[36]

Woodruff in his book describes teacher education as having two major parts: The first is the intellectual in which one learns about the way men behave, learn, think, and the manner in which they have come to live and work together. The second part consists of the methods of teaching. He also explains a three-fold concept of teaching—an objective, a learning experience and a receptiveness for learning.[37]

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[36]James B. Conant, "The Theory of Practice of Teaching: Further Consideration," New Developments, Research, and Experimentation in Laboratory Experiences, (Curtis Nash and Yvonne Lofthouse—eds.) The Association for Student Teaching, Bulletin No. 22 (1964), pp. 22-31.

[37]Asahel D. Woodruff. Basic Concepts of Teaching, San Francisco: Chandler Publishing Co. (1961), p. 1-10.

In summarizing, a theory of teacher behavior would have a set of assumptions and propositions that based upon available evidence appear to have high probability of validity, rigorously defined terms, and assumptions accepted as true for the purposes of the theory. The chief function of theory is to provide a framework for observation and analysis. Theory is an instrument or tool guiding research.[38] In the teaching-learning process, a good workable theory would be helpful in the planning of learning experiences at both the preservice and inservice levels.

Inservice Education

Flanders in 1960-1961 conducted an inservice training project using Interaction Analysis. Before this project is reported some of the needs for inservice education will be explored.

Through well organized and in some instances specially supervised inservice eduoation, teachers oan be helped to improve if they so desire. In literature today, the term continuing education and inservice education are being used interchangeably. Several of the professional educational organizations in recent years have spent their conferences studying the subject of inservice education.

Flanders says:

> At its worst, in-service training is a gigantic spectator sport for teachers costing at least 20 million dollars annually...,teachers hear speeches and play a passive role; react as one does to a play. At its best it becomes a

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[38] Ryans. Theoretical Basis for Professional Laboratory Experiences in Teacher Education, p. 5.

> problem solving process which explores new ways of teaching, new materials which can be used, new content which can be covered and new ways of helping the teacher control his own behavior for professional purposes.[39]

The majority of people in the field of education believe planned programs of inservice education are necessary. There also seems to be a common consensus that these inservice educational programs need to be improved. The three most frequently mentioned reasons for the need for inservice education are: the need for the improvement of the total professional staff of the school system; the need to keep abreast of new knowledge and research; and the need to eliminate deficiencies in the background preparation of teachers. Another factor that is often mentioned is that through inservice educational programs, creative abilities can be released and used to a greater advantage. Misner states the need for inservice education in this way: "Ink is scarcely dry on the teacher's professional diploma before the achievement it symbolizes becomes obsolete."[40]

Since our culture and scientific advancements are changing so fast, educators believe that inservice education should be a continuation of preservice preparation. Well organized and valuable inservice programs raise the educational standards within the community. Spears

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[39]Ned A. Flanders, "Teacher Behavior and In-Service Programs," Educational Leadership, XXI (October, 1963), pp. 25-29.

[40]Paul J. Misner, "In-Service Education Comes of Age," Journal of Teacher Education, I (March, 1950), p. 32.

feels that the need for good inservice programs is great, for he states:

> As higher salaries and improved extra benefits are provided, they attract better teachers who in turn are more interested in continued study on the job and continued study means better teachers; and completing the cycle, this means higher salaries and improved extra benefits, reflecting the public's appreciation.[41]

Childress believes that a teacher soon feels that his preservice education has been inadequate; and a conscientious and dedicated teacher will begin to realize this even when he is a student teacher or very soon after starting on the new job.[42] At the time when the new teacher feels inadequate and dedicated, he will be ready to start on a good program of inservice education. As one knows from studying theories of learning, changes in behavior depend upon the meaningfulness which the situation or activity holds for the individual. When the new teacher first begins on a new job, many things will be meaningful to him which were not during the preservice education. A good inservice education program designed to meet individual teacher's needs probably would be most helpful at this time.

Well planned inservice education programs will meet the needs of the individuals who are taking part in the programs. Some of the

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[41]Harold Spears. Curriculum Planning Through In-Service Programs. Englewood Cliffs, New Jersey: Prentice Hall (1957), p. 334.

[42]Jack R. Childress, "In-Service or Continuing Education for Teachers," Journal of Education, CXLVII (February, 1965), pp. 36-45.

inservice programs need to be planned for short periods of time, and others need to be planned for much longer periods of time. Programs can be initiated and carried out by individuals; others can be carried out by the local school group while other types will be carried out through the college or university. If the inservice education is going to be meaningful, it will have to be carefully planned. Childress lists a group of characteristics which he feels are essential for a successful inservice education program. Those which are pertinent to this study include:

1. Participation is the professional responsibility of all members of the school staff.
2. The program must be designed for teachers spending their first year and planned with definite activities which enable them to be properly oriented into the school system.
3. A definitive program should be planned for all persons on the school staff.
4. Any program designed must be made specifically for the group.
5. Modern research, new knowledge, as well as local problems must be studied.
6. Self-improvement of teachers and the general improvement of the school should be goals.
7. There must be time planned for this.[43]

Many different types of activities and learning experiences can be part of inservice education. These activities include college or university courses, workshops, seminars, individual conferences with supervisors, group conferences, reading up-to-date printed materials,

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[43] Ibid, p. 37-38.

attending professional organizations, visiting laboratory schools, learning to use new innovations and others.[44] The activities most valuable to beginning teachers as individuals would probably be college or university courses, workshops, seminars, regularly scheduled conferences with supervisors, and attendance at professional meetings.

College or University Courses

This is usually a structured course which has been set up to meet the needs of a group. The course often continues for a quarter, semester, trimester, or even a year. College credit is usually offered for this type of inservice education. The course can be taught at the university or it can be brought to a school where the group works.[45]

Workshops or Seminars

Workshops or seminars are usually offered by a college or a university, although sometimes local schools or professional organizations sponsor workshops relating to specific problems. The content of a workshop or seminar often is organized to meet the needs and problems of the persons who are attending the meetings. For some of the workshops or seminars, college credit is offered.[46]

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[44]Edgar M. Tanruther, "Facilitating Inservice Education," Professional Growth Inservice of the Supervising Teacher. Forty-fifth Yearbook. The Association for Student Teaching, Dubuque, Iowa: Wm. C. Brown Co., Inc. (1966), pp. 44-74.

[45]Ibid.

[46]Ibid.

Conferences

Conferences are often held between supervisors, principals and new teachers to a system or for beginning teachers as a type of inservice education. Conferences can be planned to discuss and study very specific problems which an individual may have. Group conferences which bring together several people to study the same topic can also be a means of inservice education. The kinds of programs and topics covered in either individual or group conferences can be quite varied.[47]

Printed Materials

School libraries should be informed by each teacher about the types of new materials available in each area. Through the guidance of professionals in each field, well chosen printed materials can provide each individual with a means to keep up-to-date in his or her area. Availability of materials is a very important factor for good inservice education.[48]

Professional Organizations

Becoming a member of professional organizations can be an important part of inservice education. Most professional organizations publish new ideas, and new research, and make these available to their members. The professional organizations sponsor conferences which

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[47] Ibid.

[48] Ibid.

often bring in experts in the areas to give the main addresses and lead discussion groups. Another value of a professional organization is that it brings one in contact with other persons in one's area of work.[49]

Laboratory Schools

Laboratory schools usually provide opportunities for observation, participation, research, student teaching, and serve as demonstration centers. A beginning teacher could have opportunity to observe new developments in teaching techniques and procedures as a project in inservice education. Laboratory school personnel often serve as resource persons for inservice programs within the local school.[50]

Innovations

New ideas and media are important to an inservice education program. We live in an age of automation and opportunities need to be provided for teachers in which they can learn how to use new media and instructional devices of all kinds.[51]

A good program of inservice education can be a stimulating experience for the teacher. If the objectives of the program are clearly stated and adequate learning experiences are provided, there should be evidence of changed behavior. It should be possible to evaluate the program in light of goals and observe changed behavior on the part of the teacher.

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[49] Ibid.

[50] Ibid.

[51] Ibid.

Flanders and his colleagues carried out an inservice training project for nine weeks in which fifty-five teachers participated. The teachers were from two junior high schools in a suburban school system. They met together for a total of thirty hours. The teachers were observed for about six hours during the fall before they participated in the inservice training program and they were observed again in the spring after the inservice training program. The teachers all took the Minnesota Teacher Attitude Inventory, both forms of the Cattell Sixteen Factor Personality Test and the Runner Questionnaire. The students of the teachers were asked to respond to a test of their attitudes toward their teacher before the inservice training, near the end of the nine-week training and again four or five weeks after the training. Similar tests and observations were made on a control group of teachers who did not participate in the nine-week training.[52]

During the training period, the teachers were exposed to an atmosphere in which the teachers felt free to express their attitudes, feelings and ideas. Concepts and theory related to teacher behavior were introduced, and each teacher had six hours of observer training in Interaction Analysis. In the training, flexibility of teacher influence was stressed so that they were able to adjust from direct to indirect behavior. The assumptions underlying this study were:

1. Only a teacher can change his own behavior; no one can change it for him.

2. Changes in teaching method are personal; they involve feelings and attitudes as well as new knowledge.

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[52]Ned A. Flanders, "Using Interaction Analysis in the Inservice Training of Teachers."

3. No one pattern of teaching can be adopted universally by all teachers.

4. The most effective environment for change provides freedom to express both feelings and ideas, encourages self direction, and is free of coercion.[53]

The teachers made significant changes in their behavior consistent with the intent of the training. Teachers were not told that they were too direct or too indirect, but they came to these conclusions by studying their matrices.[54]

Another study which is part of an ongoing study under a Cooperative Research Project has been training cooperating teachers in the use of Interaction Analysis. This study is being carried out at Temple University. It was assumed that the cooperating teachers could apply the knowledge they gained to the interaction between themselves and their student teachers as a means of improving interpersonal relationships. The researchers questioned whether the attitudes of cooperating teachers and student teachers toward one another would be influenced if either or both of them received training in Interaction Analysis.[55]

Forty-four secondary education student teachers and their cooperating teachers were the subjects of this part of the project. One-half of the cooperating teachers and one-half of the student teachers received training in Interaction Analysis. Conclusions from the study include:

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[53] Ibid.

[54] Ibid.

[55] Gertrude Moskowitz, "Toward Human Relations in Supervision," National Association of Secondary School Principals Bulletin (December, 1966), pp. 98-114.

> Training cooperating teachers in interaction analysis appeared to affect in a positive direction the interpersonal relationships of the cooperating teachers and their student teachers.
>
> Training both cooperating teachers and student teachers in interaction analysis appeared related to more positive interpersonal relationships between the cooperating teachers and their student teachers.
>
> Training of only the student teachers appeared to affect the attitudes toward their cooperating teachers in a negative direction.[56]

Interaction Analysis then is being used in inservice training programs to improve teacher behavior in different ways.

Flanders asks two questions relating to inservice education which summarize effectively educators thinking on inservice education. If these can be answered in the positive, an effective inservice program has been carried out.

1. Will teachers be acting differently while teaching as a direct result of the inservice training?
2. If these changes occur, has the quality of instruction really improved or is it just different?[57]

Summary

In summary, the writer has reviewed research on interaction analysis as a method used for providing relatively objective data about teacher behavior and as a means of studying the verbal behavior of beginning teachers. Many educators seem to be looking for ways in which to help teachers become more effective in their teaching. New

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[56] Ibid.

[57] Flanders, "Teacher Behavior and In-Service Programs."

theories and ideas are tried to find out if the idea will result in more effective teachers.

Inservice education has been used for many years as a method to improve teaching. The problem has sometimes been to organize meaningful inservice experiences. Knowledge about how teachers learn and how teachers behave in the classroom should provide information which could be used to provide more meaningful inservice educational experiences.

CHAPTER III

PROCEDURE AND METHOD

Selection of Content of the Study

The present study was an attempt to determine some of the strengths and weaknesses in the verbal behavior and interaction of the beginning home economics teachers in the classroom. It is hoped that the findings of this study can be used in making some recommendations for inservice programs to help the beginning teacher become a more effective teacher.

John Whitelaw, specialist for advanced study in teacher education, U. S. Office of Education, stated in an article in the January, 1964 issue of School Life: "There is virtually unanimous opinion among teacher educators today that a total of five years of higher education is required for the basic preparation of teachers."[1] Even though many educators do feel that five years are necessary, the majority of the teacher education programs are still four year programs. The writer believes that an effective inservice education program for beginning teachers can strengthen the effectiveness of these teachers. For this reason, the writer decided to try to determine some basis for

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[1] John Whitelaw, "Teacher Preparation: Five Targets for the Next Ten Years," School Life, XLVI (1964), p. 11.

recommendations for inservice education based upon the verbal behavior of the teacher.

As noted in the previous chapter most teacher influence is exerted by verbal statements, so the verbal behavior of the teacher becomes a very important factor in the effectiveness of the teacher. Bills, in the 46th Yearbook of the Association for Student Teaching, discussed effective teaching, and he stated:

> For example, a successful experience almost always seems to involve relationships in which:
>
> 1. There is considerable amount of verbal activity.
> 2. Students are interacting with each other and with their teacher.
> 3. Some students, at times, are busily at work by themselves.
> 4. The teacher is listening carefully, asking questions, and making tentative suggestions.[2]

Since verbal behavior is one of the factors in teacher effectiveness, the writer chose to study it using the technique developed by Flanders entitled Interaction Analysis. In the Handbook of Research on Teaching, Medley and Mitzel had this to say about the technique:

> Flanders has developed the most sophisticated technique for observing climate thus far, one which is unique in that it preserves a certain amount of information regarding the sequence of behavior.[3]

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[2]Robert E. Bills, "The Classroom Teacher, Mental Health, and Learning," Mental Health and Teacher Education. Forty-Sixth Yearbook. The Association for Student Teaching. Dubuque, Iowa: Wm. C. Brown Co., Inc. (1967), p. 14.

[3]Donald Medley and Harold Mitzel, "Measuring Classroom Behavior by Systematic Observation."

Use of the Technique, Interaction Analysis

When using the technique, Interaction Analysis, the observer sat in the classroom in the best position to hear and see the teacher and the students. The observer used ten categories—accepts feelings, praises or encourages, accepts or uses student ideas, asks questions, lectures, gives directions, criticizes, student talk-response, student talk-initiation, and confusion or silence—in recording the verbal behavior of the teachers and the students. The observer at the end of each three second period, decided which category best represented the communication events which had just taken place. A number representing the category was written down. This pattern needed to be continued for about a 20 minute period according to Amidon and Flanders.[4]

The observer used category one, accepts feelings, when the teacher was accepting and clarifying the feeling tone of the students. The feelings could be either positive or negative. If past feelings were being recalled, or if happy or sad events were being predicted, category one was used.[5]

Category two, praises or encourages, was used when the teacher praised or encouraged the student action or behavior. Praise could be a single word such as "good," "fine," "right," or "uh huh." Encouragement could include statements similar to "continue," "go ahead with what you are saying," or "tell us more about your idea."[6]

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[4]Amidon and Flanders. The Role of the Teacher in the Classroom.

[5]Ibid.

[6]Ibid.

Accepts or uses ideas of students, category three, was used by the observer when the teacher was clarifying, building upon, or developing ideas or suggestions given by a student. If the teacher started to use ideas of her own, category five was used. Category three was used only when the idea originated with the student.[7]

If the teacher was asking a question about content or procedure and was expecting a student to give an answer, category four, asks questions, was used. Questions could be either narrow and restrict the student in his answering, or they could be very broad and give the student much freedom in answering. All questions that required answers which were not commands or criticism were recorded in category four.[8]

When the teacher was giving facts or opinions about content or procedure, expressing her own ideas, or asking a rhetorical question, category five, lectures, was used by the observer. Usually there were extended periods of time falling into this category. This category was one of those most frequently used in classroom observation.[9]

Gives directions, category six, was used when the teacher was giving directions which he expected the students to follow. This category was also used when the teacher was giving a command or an order to the students.[10]

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[7] Ibid.

[8] Ibid.

[9] Ibid.

[10] Ibid.

Statements intended to change student behavior from nonacceptable to acceptable were recorded as category seven, criticizes or justifies authority. This category was also used if the teacher was using himself as an authority, if he was defending himself against a student, or if he was justifying himself. If the teacher was asking the student to do something as a special favor or if the teacher was bawling the student out, this category was used.[11]

The next two categories are related to student talk. Category eight, student talk-response, was used by the observer when the teacher had asked a question to which the student was responding. Anything the student said which was a response to something the teacher had asked was recorded as category eight.[12]

Student talk-initiation, category nine, was used if the student raised his hand to make a statement or to ask a question which had not been prompted by the teacher. In deciding whether to use category eight or nine, the observer had to ask herself the question: "Is this the answer or the question one could predict a student would ask from what the teacher had said?" If it was one which would easily have been predicted, category eight was used, otherwise category nine was used.[13]

Category ten, silence or confusion, included everything else which did not fit into any of the other categories. If there were periods of confusion in communication when the observer could not tell

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[11] Ibid.

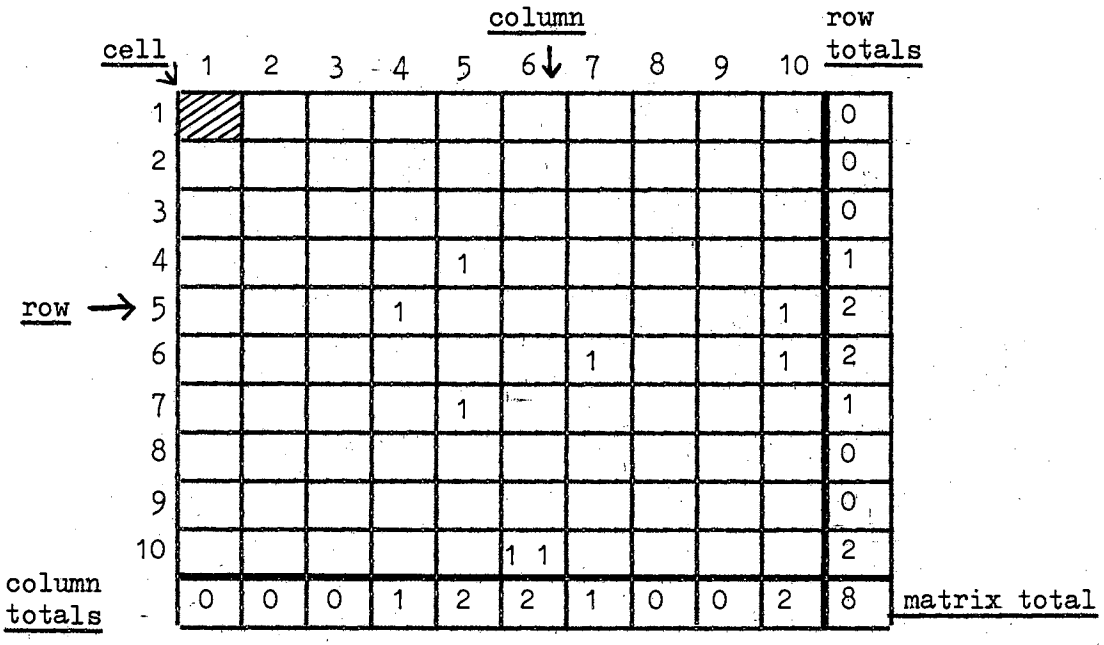
[12] Ibid.

[13] Ibid.

who was talking, category ten was used.[14]

As the observer wrote down numbers representing the verbal behavior in the classroom, notes were also jotted down in the margins to give a better description of the classroom situations. The number of members in the class, and the subject matter which was being discussed were jotted down. The observer recorded three 20 minute periods for each teacher.

After the observations were completed, they were tabulated in a ten by ten matrix. A matrix is made up of columns, rows, and cells. A column consists of the vertical numbers within the matrix. A row is made up of the numbers which go across the matrix. A cell is a small compartment within the matrix.



	1	2	3	4	5	6	7	8	9	10	row totals
1											0
2											0
3											0
4					1						1
5				1						1	2
6							1			1	2
7					1						1
8											0
9											0
10						1 1					2
column totals	0	0	0	1	2	2	1	0	0	2	8

Figure 1. Sample of a matrix

[14] Ibid.

The entire series needs to start and end with the same number according to the various studies read. It was suggested that if the number ten did not start and end the series, it should be added. The numbers were tabulated in a matrix, one pair at a time. For example, if the numbers in the series were 10, 6, 10, 6, 7, 5, 4, 5, 10, the first pair was 10-6.

Since 10 means silence or confusion and 6 means giving directions, there was first a period of either silence or confusion followed by the giving of directions. The 7 in the series would mean that the teacher was either criticizing or justifying his authority. The number 5 was used when the teacher was lecturing, and 4 was used when the teacher was asking questions. The second pair was 6-10. This was tallied in row 6 and column 10. Each pair overlapped with the next when being recorded in a matrix. This was continued until all of the numbers from the 20 minute observations were recorded within the matrix. Each row and each column were then added to find the total tallies in each row and each column. Row 1 and column 1 came out with the same number of tallies, as did all of the other rows and columns.[15] (See Figure 1) To thoroughly understand the process of recording the series of numbers, it is necessary to practice so that the recording can be accurately done. The three matrices for each teacher were combined so that a pattern of verbal behavior for each teacher could be identified. (See Appendix B, pages 95-103) The six matrices for each of the first year teachers were combined, and the six matrices for each of

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[15] Ibid.

the second year teachers were combined so that the patterns of verbal behavior for the first and second year teachers as two groups could be compared. (See Appendix B, pages 102-103)

Selection of a Sample

All of the graduates of Oklahoma State University in home economics education for the past two years, 1964-1965 and 1965-1966, were contacted by a letter which included the purposes of the study and a brief outline of the study. (See Appendix A, pages 89-94) The teachers were asked to return an enclosed postcard on which they had listed their class schedules and the subject matter which they would be teaching in the remaining two months of the school year. If they were conducting discussion type classes between April 15 and May 15, 1966, they were asked to indicate if they would like to participate in the study. Their high school superintendents were also contacted and asked if they would give permission for their home economics teacher to participate in the study. (See Appendix A, pages 89-94) Since the writer was coming into the classrooms to do observations, it was necessary to obtain permission and cooperation from the superintendents and each individual teacher.

From the original group of 46 names of beginning teachers, 12 beginning teachers replied that they had permission and were willing to participate in the study. So the group used in this study consisted of six first year teachers and six second year teachers.

Observations

The writer then visited each one of the teachers to further explain the study and to develop rapport which would help eliminate some of the anxiety of having an observer in the room. According to Wrightstone, "It has been found that the presence of an observer distorts the behavior under study less than anticipated."[16]

A schedule for making the observations was set up during the first visit. The teacher then knew exactly when the writer was coming to observe her classes. The times for observation were arranged so that the observer saw at least two classes and was able to observe a total of three 20 minute periods. On the second visit, the writer observed three 20 minute periods of classes for each teacher using the categories of Interaction Analysis. Before the observer started to categorize the verbal behavior, she observed for several minutes to get the general feel of the classroom.

Percentages were figured for the amount of verbal behavior which took place in each category during the observations. These percentages were compared with averages which had been found to occur when studying large groups of teachers.[17] An ID ratio was also figured. The ID ratio showed the use of indirect and direct influence by the teacher upon the students. A revised ID ratio was also figured. The revised ID ratio showed whether or not the teacher was direct or indirect in her approach

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[16] J. Wayne Wrightstone, "Observational Techniques," Encyclopedia of Educational Research, 3rd ed. Chester W. Harris (ed.), (New York, 1960), p. 928.

[17] Amidon and Flanders. The Role of the Teacher in the Classroom.

to motivation and control. Tables were constructed which summarized all of the findings relating to the observations.

Construction of and Use of an Interview Schedule

An interview schedule (see Appendix A, pages 89-94) was constructed by the writer to find out how each teacher perceived her own verbal behavior as compared to the verbal behavior actually observed in the classroom. The interview schedule was based upon the categories of Interaction Analysis. After the observations had taken place, the writer talked to each teacher going over each statement in the interview with the teacher. The teacher was asked to rate herself according to low, below average, average, above average, and very high on each of the statements about her verbal behavior. The interview schedules were then compared to the actual verbal behavior observed in the classroom as determined by the evaluation of the matrices. This comparison showed whether or not the teachers had a realistic perception of themselves as they interacted in the classroom.

Summary

In summary, the methodology used in this study included first a thorough study of the technique, Interaction Analysis. A group of beginning home economics teachers who were graduates of Oklahoma State University teaching in schools where observations could be made were used in this study. Each teacher was visited twice. The first time to get to know the teacher, and the second time to do the observations. An interview schedule was prepared and the teachers were interviewed

after the observations had been made. The data were recorded on matrices and prepared for the analysis which will be discussed in the following chapter.

CHAPTER IV

ANALYSIS OF DATA

Classroom Situations Observed

This study was structured so that verbal behavior of beginning home economics teachers could be observed and recorded as it took place in the classrooms. The twelve teachers were divided into two groups, six first year teachers and six second year teachers. Since the group used in this study was so small, the findings will be limited to this particular group of beginning home economics teachers. However, the writer believes that the type of differences and the trends found in the patterns of verbal behavior among these beginning home economics teachers may also be found among other beginning home economics teachers who have had the same background of training.

As the classroom situations and groups are described, it would be well to keep in mind the fact that each teacher knew ahead of time that the writer was coming to observe. It could be expected that some special preparation had perhaps been done for the classes which were observed.

The two groups of teachers are identified by letter as they are referred to throughout the analysis and as they are listed in the tables and appendix. Teachers A through F are the first year teachers, and teachers G through L are the second year teachers.

The classrooms and facilities of the teachers which were observed appeared to the writer to be adequate. Seven of the twelve teachers were teaching in quite new school buildings, while five were teaching in rather old school buildings. Those who were teaching in the old classrooms had used ingenuity in making their surroundings pleasant and conducive to the type of study which was being carried out.

Class sizes varied from four in a Home Economics IV class to thirty in a Home Economics I class. The lower level classes, freshmen and sophomores, averaged sixteen students per class, while the upper level classes, juniors and seniors, averaged twelve per class. The writer observed seventeen classes composed of students in the lower level classes and seven composed of students in the upper level classes.

The average number of students in the classes of the first year teachers, teachers A through F, was just under fifteen students per class and for the second year teachers, teachers G through L, the average number was just over fifteen students per class. Both groups of teachers together then averaged fifteen members per class. There was quite wide variation among the class sizes for both the first year and the second year teachers in this study. The first year teachers had classes with from four to twenty-five in a class and the second year teachers had classes with from five to thirty members in a class.

In general the teacher of the smaller classes seemed to have a harder time to get student participation when the observer was in the classroom than she did with the larger classes. The observer seemed to be more noticeable in a room with fewer people than when there were more people. This factor probably inhibited both the students and the teacher to some extent.

The teachers observed were using combinations of many different methods to present material. Part of each class period observed consisted of a discussion period in which interaction occurred between the students and the teacher. Other methods and materials observed being used included short lectures, student reports, short written tests, presentation of material with the use of a filmstrip, use of the overhead projector, use of the chalkboard and the use of charts from a bulletin board. Different combinations of these methods were being used. Most students seemed to respond very well to each method used by her teacher.

The students in all of the classrooms observed were seated around tables. Three of the teachers had the tables arranged in a U shape, while the others had from four to six students sitting around individual tables. The U shaped arrangement made it possible for all students to see the teacher and vice versa. Some of the classrooms were not of a size or shape in which the U shape arrangement was possible.

One-third of the classes observed were studying child development. The writer commented upon this to several of the teachers. The response was that it was easier to get mothers to bring little children to school for short periods of nursery school or other types of observations when the weather was nice in the spring. For this reason many of the teachers had planned a child development unit for late spring. Since the study of child development often consists of some planned discussion periods, the writer was able to observe verbal behavior very readily in these discussion classes.

Three classes were studying nutrition, three were studying health and first aid, two were studying family relationships, three were

studying money management, three were studying in the area of home furnishings, one was studying the choosing of tablewares and one eighth grade class was studying manners. As stated previously each class consisted of some discussion as well as some other method of instruction.

Both the first year teachers and the second year teachers seemed to have good rapport with their classes. Students seemed to respect the teacher as a person who knew what she was talking about. The teachers all had pleasant voices and seemed to have thought through most of the questions they put before the class. Several were more adept at questioning than were the others.

The classroom climate as it could be determined by the writer seemed very positive in all of the classrooms. The majority of the students seemed to enjoy studying with the teachers. There was a warmth which the teachers expressed in their interaction with the students.

The writer feels that perhaps those who responded to the invitation to participate in this study were dedicated teachers who thought of teaching as a profession and wanted to improve. For this reason, the writer also feels many of them had put forth extra effort in preparing themselves and their students for the observations.

The group of teachers observed were very cooperative. They all expressed great interest in the study and wanted an interpretation so that they could use the information for self-evaluation. After the study was completed, the writer set up conferences with the five teachers who were at summer school and interpreted their individual matrices for them. A letter explaining the verbal behavior observed

was sent to the teachers who were not attending summer school. All of the teachers observed expressed interest in becoming better teachers and wished they had more opportunity to become aware of this type of interaction before they began teaching. It was felt by the writer that this interpretation to the individual teacher was very important.

Analysis of the Matrices of the Individual Teachers

Tables I and II show a summary of the verbal behavior which occurred in each category during the observation periods. A combined matrix for the total observations of each teacher can be found in appendix B, pages 95-103.

The averages found to be typical of teachers as determined by studies of many elementary and junior high school teachers by Flanders and his associates are used for comparison. Flanders and Amidon do not set forth these averages as being ideal, only typical.[1] No averages could be found for high school teachers or for home economics teachers which had been studied using the technique, Interaction Analysis.

Table I is a summary of the verbal behavior of the first year teachers. In studying Table I, the following comparisons can be made:

1) Only two teachers were near average in accepting the feelings of students.

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[1] Amidon and Flanders. The Role of the Teacher in the Classroom.

TABLE I

THE COMBINED MATRICES FOR EACH FIRST YEAR TEACHER

	Categories	Average Per Cent*	Teachers' Per Cent of Verbal Behavior Per Category					
			A	B	C	D	E	F
1.	Accepts feelings	.10 to .50	.00	.09	.00	.10	.00	.00
2.	Praises or encourages	2.00	2.40	.04	.00	.00	.00	.00
3.	Accepts or uses student ideas	2.00 to 9.00	2.40	1.70	4.31	5.60	4.80	3.10
4.	Asks questions	8.00 to 15.00	10.10	8.30	4.01	4.30	4.56	8.60
5.	Lectures	25.00 to 50.00	43.90	67.04	56.10	54.39	26.44	38.00
6.	Gives directions	4.00 to 8.00	.60	2.10	1.62	2.20	.65	.91
7.	Criticizes	1.00 to 5.00	.07	1.10	.20	.50	2.75	.19
8.	Student talk-response	**	25.30	12.30	13.52	13.00	16.50	33.79
9.	Student talk-initiation	**	8.00	4.73	16.51	18.41	37.10	10.51
10.	Confusion or silence	**	5.23	2.60	3.73	1.50	7.20	4.90

*These average percentages were taken from the manual, The Role of the Teacher in the Classroom by Amidon and Flanders.

**No average percentages were given for these categories.

2) Four did not use any statements of praise or encouragement. There may have been some gestures, but only the verbal behavior was recorded.

3) All except Teacher B rated with the average in accepting or using student ideas.

4) Half of the first year teachers rated with the average in the percentage of questioning which was done.

5) Half of them spent more time in lecturing than did the average.

6) Not one of the first year teachers spent the average amount of time in giving directions. Since the teachers knew that the observer was coming, perhaps the teacher had given directions relating to the day's lesson on the previous day.

7) Two of the teachers used about the average in criticizing or justifying self as an authority. The other teachers used less.

8) No averages were given for student talk and silence or confusion. The teachers had varying amounts of student response and student initiated talk. Research has shown that if the teacher spends more than 50 per cent of her time in lecturing, the students do not have opportunity to ask many questions or put forth many ideas.[2]

Table II is a summary of the verbal behavior of the second year teachers. From this table, these comparisons can be made.

1) Two of the second year teachers came within the average in accepting the feelings of their students.

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[2] Ibid.

TABLE II

THE COMBINED MATRICES FOR EACH SECOND YEAR TEACHER

Categories	Average Per Cent*	Teachers' Per Cent of Verbal Behavior Per Category					
		G	H	I	J	K	L
1. Accepts feelings	.10 to .50	.30	.02	.43	.00	.08	.06
2. Praises or encourages	2.00	.40	.17	.00	.00	.00	.00
3. Accepts or uses student ideas	2.00 to 9.00	1.90	.09	2.50	2.58	3.62	3.31
4. Asks questions	8.00 to 15.00	8.75	1.51	13.00	8.30	16.52	2.52
5. Lectures	25.00 to 50.00	53.30	64.00	51.00	52.10	46.50	20.80
6. Gives directions	4.00 to 8.00	.60	.09	1.00	.70	.78	.00
7. Criticizes	1.00 to 5.00	.20	2.90	.00	1.00	.00	.00
8. Student talk-response	**	18.32	7.41	19.70	26.10	17.50	56.51
9. Student talk-initiation	**	7.82	21.61	10.30	8.00	7.60	13.50
10. Confusion or silence	**	8.42	2.20	2.40	1.22	7.40	3.30

*These averages were taken from the manual, The Role of the Teacher in the Classroom by Amidon and Flanders.

**No average percentages were given for these categories.

2) None of the second year teachers used an average amount of praise.

3) Four of the group were within the range of average in accepting or using student ideas.

4) In asking questions, four of the group used within the average amount.

5) One of the teachers who had students giving reports used below the average in lecturing and four of the groups used above the average in lecturing.

6) No one gave many directions. All of the percentages were below the average. Again this could be due to the fact that the teacher may have made preparations for the observer.

7) Two of the teachers used within the average in criticizing or justifying self as an authority, and two used no statements which the observer felt belonged in category seven.

8) Since no averages were given for student talk, a comparison to the average cannot be made. As previously stated, if the teacher spends too much time in lecturing, the students do not have an opportunity to talk.

9) No averages were given for silence or confusion. The teachers who had the highest percentages in this category had class time set aside for some study and also asked problem-solving questions.

Analysis of the Combined Matrices for the First and Second Year Teachers

The matrices for each individual teacher were next combined into two groups—first year teachers and second year teachers. These

matrices can be found in Appendix B, pages 95-103. These matrices were interpreted through the use of questions and ideas put forth by Amidon and Flanders in The Role of the Teacher in the Classroom. The interpretations are summarized in Tables III and IV. These are the questions which were suggested:

1. Do I do too much of the talking in the classroom?
2. Am I typically a direct or indirect teacher?
3. How do I react to student verbal behavior?
4. How much time do I spend in lecturing?
5. Do I spend enough time in the extension of student ideas?
6. Do students tend to resist my influence?
7. Do I accept, clarify, and use student emotion?
8. How effectively do I use praise?
9. How effective am I in communicating subject matter to my pupils?
10. How effectively do I use criticism in my teaching?
11. Is there adequate pupil participation in my classroom?[3]

"Do I do too much talking in the classroom?" To answer this question, the totals of column 1 through 7 are compared with the totals of columns 8 and 9. An average teacher would have about 44 per cent in columns 1 through 1 through 7 and 30 per cent in columns 5 through 7. The first year teachers had 56 per cent of their total tallies in columns 1 through 7 and 39 per cent of their total tallies in columns 8 and 9. The second year teachers had 61.37 per cent of their total

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[3] Ibid.

tallies in columns 1 through 7, and 34.30 per cent in columns 8 and 9. (See Table III) Flanders in his studies found that in the average classroom someone is talking two-thirds of the time, and two-thirds of that time the teacher is the person talking.[4] Three of the first year teachers and four of the second year teachers were talking more than two-thirds of the time. Seven of the twelve of the teachers were talking more than two-thirds of the time.

The question, "Am I typically a direct or indirect teacher?" can be answered by comparing the total tallies in columns 1 through 4 with those in columns 5 through 7. If over half of the teacher talk was in columns 5 through 7, the teacher was more direct than indirect. About 70 per cent in a large study were found to have predominantly direct patterns.[5] The first year teachers in this study had 22.4 per cent of teacher talk in columns 1 through 4 and 77.6 per cent in columns 5 through 7. The second year teachers had 13.4 per cent in columns 1 through 4 and 86.6 per cent in columns 5 through 7. Both the first and the second year teachers were direct in their influence with the second year teachers having a tendency to be more direct in their influence. (See Table IV)

The third question, "How do I react to student verbal behavior?", was answered by comparing the total tallies in rows 8 and 9, columns 1 through 4 with those in rows 8 and 9, columns 5 through 7. This

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[4] Ibid.

[5] Ibid.

TABLE III

PERCENTAGE OF TOTAL VERBAL INTERACTION IN THE CLASSROOM*

Verbal Behaviors	First Year Teachers (%)	Second Year Teachers (%)
1. Teacher talk in classroom	56.00	61.37
2. Direct teacher influence	44.20	53.20
3. Indirect teacher influence	12.78	8.34
4. Lecturing	41.42	51.00
5. Extension and use of student ideas	4.60	1.67
6. Confusion or silence	5.00	3.13
7. Acceptance of student emotion	.05	.13
8. Use of praise	.43	.13
9. Extended lecture	33.00	45.60
10. Criticism	1.32	1.96
11. Pupil participation	39.00	34.30

*Percentages were figured from the combined matrices of the six first year teachers and the combined matrices of the six second year teachers.

showed if the teacher was more direct or indirect in her response to students. If the majority of the tallies were in rows 8 and 9, columns 1 through 4, the teacher was indirect in her influence upon the students. The first year teachers had a total of 3955 tallies in the rows and columns related to indirect influence, and 6365 tallies in the rows and columns related to direct influence. The second year teachers had a total of 4958 tallies in the rows and columns which

TABLE IV

PERCENTAGE OF VERBAL INTERACTION OBSERVED IN EACH CATEGORY OF INTERACTION ANALYSIS

Category	Average Per Cent*	First Year Teachers (%)	Second Year Teachers (%)
1. Accepts feelings	.10 to .50	.05	.13
2. Praises or encourages	2.00	.43	.13
3. Accepts or uses student ideas	2.00 to 9.00	4.20	1.80
4. Asks questions	8.00 to 15.00	8.20	6.60
5. Lectures	25.00 to 50.00	41.42	51.00
6. Gives directions	4.00 to 8.00	1.00	.41
7. Criticizes	1.00 to 5.00	.70	1.30
8. Student talk-response	**	23.00	20.40
9. Student talk-initiation	**	16.00	13.90
10. Confusion or silence	**	5.00	4.33

*These average percentages were taken from the manual, The Role of the Teacher in the Classroom by Amidon and Flanders.

**No average percentages were given for these categories.

show indirect influence, and 10220 tallies in the rows and columns which show direct influence. This comparison showed the tendency that this particular group of teachers was more direct in their influence upon the students than indirect. (See Appendix B, pages 95-103)

"How much time do I spend in lecturing?" This question was answered by comparing the tallies in column 5 with the total in all of

the columns. If the teacher was spending more than 50 per cent of the time in lecturing, the students may not have had enough time in which to ask questions.[6] The first year teachers in this study spent 41.42 per cent of their time in lecturing. The second year teachers spent 51.0 per cent of their time lecturing. From this comparison one can see that the second year teachers spent more time in lecturing than did the first year teachers. The first year teachers were lecturing less than 50 per cent of the time. This trend should have given their students more opportunities for asking questions and having difficulties clarified. (See Table IV)

The next question, "Do I spend enough time in the extension of student ideas?", can be answered by comparing cell 3-3 with all of the tallies in column 3. Research indicates that teachers who spend more than 35 per cent of their column 3 time in the 3-3 cell have students with higher achievement scores and more positive attitudes.[7] The first year teachers had 31.33 per cent of their tallies from column 3 in the 3-3 cell. The second year teachers had 10.71 per cent of their tallies from column 3 in the 3-3 cell. Here one notices quite a difference between the first year teachers and the second year teachers. It would seem that the first year teachers spent more time extending student ideas and therefore have students who perhaps have better attitudes and better achievement. A reason for this might be that the second year teachers were more disturbed by the observer and

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[6] Ibid.

[7] Ibid.

thought in terms of how they themselves performed, and they did not use the students' ideas which were brought up during these classes. (See Appendix B, pages 95-103)

"Do students tend to resist my influence?" Cells 6-7, 7-6, 6-6, and 7-7 were analyzed for this answer. If the number of tallies in cells 6-7 exceed the number of tallies in cells 6-6 and 7-7, the teacher could be having discipline problems. The first year teachers had 6 tallies in 6-7 and a total of 112 tallies in 6-6 and 7-7. One can see that the 6-7 cell had far fewer tallies than there were in the other two cells so from this information, the first year teachers should not have had discipline problems. The second year teachers had no tallies in the 6-7 cell. In cells 6-6 and 7-7, the second year teachers had 115 tallies. From analyzing these cells, neither the first or second year teachers in this group appeared to be having any discipline problems. If there had been a large percentage of tallies in column 10, there may have been much confusion in the classrooms. The first year teachers had 5 per cent of their tallies in column 10 and the second year teachers had 4.33 per cent of their tallies in column 10. Both of these groups had percentages which were rather low. (See Appendix B, pages 95-103)

Question 7, "Do I accept, clarify and use student emotion?", did not have many tallies in the cells related to this. The average teacher uses less than .5 per cent. A classroom teacher is not expected to spend a great deal of time dealing with student emotion,

however some response to student emotion does take place in the classroom.[8] The first year teachers had .052 per cent of their total tallies in these columns. The second year teachers had .13 per cent of their total tallies in this column. This might be an area in which more experience and education would be necessary before a teacher would feel very secure. (See Appendix B, pages 95-103)

The question, "How effectively do I use praise?" was answered by looking at column 2. The average teacher uses praise between 1 and 2 per cent of the total time spent in classroom interaction. The first year teachers spent .43 per cent of their time in using praise, and the second year teachers used .13 per cent of their time in using praise. Both of these groups of teachers were below the average in their use of praise in the classroom. If there was praise used, it did not show up as verbal behavior which was recorded. (See Table IV)

"How effective am I in communication of subject matter to my pupils?" Extended lecture was identified by looking at the 5-5 cell. The first year teachers used 33 per cent of their time in extended lecture, and the second year teachers used 45.6 per cent of their time in extended lecture. The first year teachers did not spend as much time in straight lecturing as did the second year teachers. This fact for these teachers might be related to the competency each group felt in relation to the subject matter being taught. Perhaps the second year teachers felt more confident and therefore just presented it to their students. (See Appendix B, pages 95-103)

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[8] Ibid.

"How effectively do I use criticism in my teaching?" The average teacher uses 3 to 4 per cent. There is a positive relationship between teachers who use less than 1 per cent criticism with high pupil achievement and superior attitudes.[9] The first year teachers had .004 per cent in cell 7-7, and the second year teachers had .008 per cent in the 7-7 cell. Both groups of teachers in this study were very low in the amount of criticism which they used. They used much below what was found to be average in other studies carried out using Interaction Analysis. (See Appendix B, pages 95-103)

The last question suggested by Amidon and Flanders was: "Is there adequate pupil participation in my classroom?" The average teacher uses about 24 per cent of pupil participation in the total verbal interaction.[10] The first year teachers had 39 per cent of pupil participation, and the second year teachers had 34.30 per cent pupil participation. The teachers in these two groups had a greater amount than average of pupil participation. This was perhaps due to the fact that the teacher knew that the observer was coming and special planning had been made for the day. (See Table IV)

In summary, the first year teachers were below average in accepting student feelings, praising and encouraging, in giving directions, and in criticizing. In all other categories they were within the average range. The second year teachers were below the average in praising and encouraging, accepting and using student ideas, in asking questions, and in giving directions. This group did more than an

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[9] Ibid.

[10] Ibid.

average amount of lecturing. In reviewing studies in which "superior" teachers were studied with the use of Interaction Analysis, several things were pointed out about the superior teachers. The superior teachers talked less, accepted more student ideas, encouraged more pupil-initiated participation, and gave fewer directions than did the average teachers. In comparing the teachers in this study on the specific categories relating to the superior teachers one finds that the first and second year teachers probably did too much talking, they did not extend and use student ideas to a very great extent. They did have quite a bit of student participation and they had average or just below average in the category of giving directions. (See Tables III and IV)

The findings in Table III are directly related to the questions which have just been explained. In Table IV further explanations can be found which compares the verbal behavior of the two groups studied to the average found by Amidon and Flanders in their studies.

Analysis of ID Ratios

The next step in analyzing the data was the figuring of the ID (Indirect versus Direct) ratio and the revised ID ratio. An ID ratio showed the relative number of indirect and direct teacher statements which indicates the amount of indirect and direct influence upon the students by the teacher. To figure an ID ratio, the number of tallies in columns 1, 2, 3, and 4, which indicate indirect influence, is divided by the total number of tallies in columns 5, 6, and 7, which indicate direct influence. An ID ratio of 1.0 means that for every indirect

statement there was one direct statement. An ID ratio of 2.0 means that for every two indirect statements there was only one direct statement.[11]

The findings in Table V show the percentages of indirect statements, the percentage of direct statements, the ID ratio and the revised ID ratio for each individual teacher. The percentages have been discussed previously. As one looks at the ID ratio one finds that none of the teachers observed had a ratio of 1.0 which would mean that for every indirect statement there was not one direct statement. The ratios varied from .101 to .415.

The range in ID ratios for the first year teachers varied from .101 to .388 which means that they varied from 10 indirect statements per 100 direct statements to about 40 indirect statements per 100 direct statements for the first year teachers. The range in ID ratios for the second year teachers was from .029 to .415 which means that the range varied from about 3 indirect statements per 100 direct statements to about 40 indirect statements per 100 direct statements. The average ID ratio for the first year teachers was .288 and the average for the second year teachers was .250. (See Table V) As these averages are analyzed, one can see that there was a very little difference between the first year teachers and the second year teachers. The tendency was for all of the teachers studied to use more direct influence than indirect influence.

A revised ID ratio was used to give evidence about whether the teacher was direct or indirect in her approach to motivation and

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[11] Ibid.

TABLE V

INFLUENCE OF TEACHER TALK

	First Year Teachers					
	A	B	C	D	E	F
Percentage of Indirect statements	25.0	13.0	13.0	16.0	22.0	25.0
Percentage of Direct statements	75.0	87.0	87.0	84.0	78.0	75.0
ID Ratio	.388	.143	.101	.174	.237	.328
Revised ID Ratio	6.50	.60	2.32	2.04	1.46	3.53

	Second Year Teachers					
	G	H	I	J	K	L
Percentage of Indirect statements	10.8	2.8	24.0	15.9	29.0	21.0
Percentage of Direct statements	89.2	97.2	75.1	84.1	71.0	79.0
ID Ratio	.268	.029	.331	.189	.415	.268
Revised ID Ratio	3.47	.087	3.10	1.10	4.66	.000

control. To calculate a revised ID ratio, the tallies in columns 1, 2, and 3, which indicate indirect influence are divided by the tallies in columns 6 and 7, which indicate direct influence. This revised ID ratio eliminated the effects of categories 4 and 5 which are asking questions and lecturing.[12]

When the revised ID ratios were studied, one found several changes. Five of the first year teachers had more indirect than direct

[12] Ibid.

statements. Four of the second year teachers had more indirect than direct statements. The revised ID ratios for the first year teachers varied from .60 to 6.50 and the revised ID ratios for the second year teachers varied from .00 to 4.66. (See Table V) This probably means that the majority of the teachers in the study were more indirect than direct as they worked in motivating and controlling the students. The same type of influence shows up in Table VI as the teachers are placed into the groups of first year teachers and second year teachers.

Again in reviewing Flanders' extensive study, he found that eighth grade students in social studies and geometry learned significantly more if their teachers were indirect in their influence rather than direct.[13]

TABLE VI

INFLUENCE OF TEACHER TALK BY GROUPS

	First Year Teachers	Second Year Teachers
Percentage of Indirect statements	12.50	8.34
Percentage of Direct statements	44.26	53.26
ID Ratio	.289	.157
Revised ID Ratio	1.68	1.17

[13]Amidon and Flanders. "Effects of Direct and Indirect Teacher Influence on Dependent-Prone Students Learning Geometry."

Analysis of Interview Schedule

The writer interviewed each teacher after the observations were completed. The teachers were asked to rate themselves on how they perceived their own verbal behavior to be within the classroom. Each teacher rated herself very low, below average, average, above average, or very high. (See Appendix A, pages 89-94) They were to rate themselves as they felt they compared in relation to other beginning home economics teachers.

The statements in the interview schedule were worded so as to relate to the categories in Interaction Analysis which directly involved the teacher.

The categories and the statements related as follows:

Statements	Category to Which Related
1- 3	1. Accepts feelings
4- 6	2. Praises or encourages
7- 9	3. Accepts or uses student ideas
10-12	4. Asks questions
13-15	6. Gives directions
16-18	7. Criticizes or justifies authority
19	10. Silence or confusion
20	5. Lectures

In Table VII a summary is presented of how the teachers perceived themselves in relation to other teachers within the different categories which directly involved themselves as teachers. As one looks at the table, one can see that the majority of the teachers felt themselves to be average or above average in their verbal behavior in the

TABLE VII

SUMMARY OF PERCEIVED VERBAL BEHAVIOR FROM INTERVIEWS

Categories	Very Low	Below Average	Average	Above Average	Very High
	Percentage of First Year Teachers in Each Rating*				
1. Accepts feelings	.00	5.5	28.0	61.0	5.5
2. Praises or encourages	.00	.00	44.4	40.1	15.5
3. Accepts or uses student ideas	.00	5.5	27.2	40.1	27.2
4. Asks questions	.00	17.5	61.0	21.6	.00
6. Gives directions	.00	27.10	11.45	50.0	11.45
7. Criticizes	11.8	44.4	32.7	11.45	.00
10. Confusion or silence	.00	34.0	66.6	.00	.00
	Percentage of Second Year Teachers in Each Rating*				
1. Accepts feelings	5.5	.00	38.0	44.4	11.8
2. Praises or encourages	.00	.00	33.3	44.4	21.2
3. Accepts or uses student ideas	.00	.00	61.0	27.2	11.8
4. Asks questions	.00	11.8	50.0	32.7	5.5
6. Gives directions	.00	.00	50.0	38.3	11.7
7. Criticizes	5.5	5.5	44.4	27.2	17.4
10. Confusion or silence	.00	.00	66.6	17.0	17.0

*Percentage of teachers who rated themselves in each rating as they perceived themselves to be in relation to other beginning home economics teachers.

classrooms. Table VII can be compared with Table IV to find out how the observed verbal behavior compared with the way the teachers believed they used verbal behavior.

As one compares Table VII with Table IV, one can compare the verbal behavior observed by the writer with the way the teachers believed they compared in their use of verbal behavior in the classroom with other beginning home economics teachers.

The observed behavior relating to category 1, accepts feelings, was below average for the first year teachers and within the average range for the second year teachers. As one looks at the perceived behavior, one finds the majority of both first and second year teachers felt they were above average in accepting the feelings of their students.

In comparing the two on category 2, praises or encourages, both were below average when observed. The first year teachers believed they were average and the second year teachers believed they were above average in the use of praise and encouragement when they were interviewed.

The first year teachers, as observed, were above average in the use of category 3, accepts or uses student ideas. The second year teachers were below the average range. The first year teachers believed they were above average and the second year teachers believed they were average in the acceptance and use of student ideas when interviewed.

In using category 4, asks questions, the first year teachers observed were within the average range, and the second year teachers were below the average range. As the teachers perceived their own behavior and answered during the interview, both the first and second year teachers believed they were average in using category 4.

Both the first and second year teachers who were observed were below the average range in using category 6, gives directions. The first year teachers felt they were above average in giving directions and the second year teachers felt they were average in the use of category 6.

In the use of criticism, category 7, the observer found the first year teachers to be below the average range, and the second year teachers to be within the average range. The first year teachers felt they were below in the use of criticism. The second year teachers felt that they were average in their use of criticism.

In category 10, confusion or silence, the first and second year teachers did not have much within the classrooms which were observed. The first and second year teachers perceived themselves as having a classroom in which there was an average amount of confusion and silence.

In relation to lecturing, category 5, first year teachers had 41.42 per cent in this category, and the second year teachers had 51.00 per cent in category 5. One of the first year teachers believed she used 25 per cent of her time in lecturing and five felt they used 50 per cent of time in lecturing. Of the seoond year teachers, four felt they used 50 per cent of their time lecturing and one thought she used 75 per cent of her time in lecturing.

In summary, the majority of the first year teachers perceived themselves to be average or above average in accepting feelings, praising, accepting or using student ideas, giving directions, and in the amount of confusion or silence in their classrooms. The

majority of second year teachers felt they were average or above in all the categories involving teacher behavior.

In the observed behavior, the first year teachers were within the average range in accepting or using student ideas, questioning, and lecturing. They were observed to be below the average range in accepting feelings, praising, giving directions and criticizing.

The majority of second year teachers were observed to be within the average range in lecturing and criticizing, and below the average range in all other categories. The majority of the second year teachers perceived themselves to be average or above average in all of the categories of verbal behavior.

In thinking again about studies of superior teachers using interaction analysis, it may be better not to be within the average range. The superior teachers were found to talk less, they accepted more student ideas, they had more pupil initiated participation and they gave fewer directions. These ideas will be incorporated into the recommendations which follow in the next chapter.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This study was concerned with the use of Interaction Analysis as a method of studying the verbal behavior of beginning teachers in home economics who had graduated from Oklahoma State University during the two years, 1964-1965 and 1965-1966. The verbal behavior was studied because most teacher influence in the classroom is exerted through verbal activities. The writer wanted to discover the type of verbal behavior which was carried on in the classrooms of first and second year teachers so that some basis might be established as an aid in planning both preservice and inservice education. Through this study, the verbal behavior of the first and second year teachers could be compared and changes could be noted.

In the review of literature relating to verbal behavior, teachers were labeled as superior, average, and below average according to ratings by supervisors or achievement of students. Literature indicates that average teachers are more flexible than below average teachers. The teachers whose students had better achievement could change from direct influence to indirect influence rather easily. Students taught by a teacher who used indirect influence learned more

than did the students taught by a teacher who used direct influence.

Superior teachers were more accepting of pupil-initiated ideas, tended to encourage these ideas more, used more indirect verbal behavior, used fewer directions and criticized less. They also asked questions which were broader and the students interrupted the lecture more often and became more actively involved in the classroom interaction.

Educators believe that communication requires a two-way interaction. The teacher and the student both need to be involved in the communication if learning is to take place. Learning takes place most effectively when students have opportunities to discuss and use ideas. For these reasons, the writer studied verbal behavior. The technique, Interaction Analysis, was chosen because it was a relatively simple way of studying verbal behavior. The writer could seem to see possibilities for use of the technique as she taught classes in methods of teaching and in working with supervisors of student teachers. This study provided opportunity for learning the use of the technique.

Data were collected by observing six first year teachers and six second year teachers in their classrooms. These comprised the group of home economics teachers who indicated they were willing to cooperate and were planning discussion classes during the period of time when the observations could be done. The writer observed three 20 minute periods for each teacher and categorized the observations by using Interaction Analysis. It was hoped that the analysis of the data would provide some basis for making recommendations for inservice education. Carefully planned inservice education programs

should be helpful to the beginning home economics teacher to help her become more effective in her work.

After analyzing the data, the writer interpreted the data and the use of Interaction Analysis to the teacher through a conference or through correspondence. The teachers which were available for conferences expressed a great interest in being able to do some self-evaluation through the use of the tool, Interaction Analysis. They seemed to feel that this tool might help them to improve their own effectiveness as a teacher.

Conclusions

The findings of this study show how a select group of beginning home economics teachers compared with the averages from other studies reviewed of elementary and junior high school teachers in which Interaction Analysis was the tool used for the study of verbal behavior. As stated previously, it must be remembered that averages are only typical and not always an ideal situation. The first year home economics teachers were within the average range as they were compared to those from previous studies in accepting and using student ideas, in asking questions, and in lecturing. In all other categories, they were below the average range. The second year home economics teachers were within the average range only in asking questions and in criticizing or using self as an authority. They were below average in the others except in the use of lecture where they were above the average range.

In comparing these findings with the verbal behavior of superior teachers, one finds that the superior teachers which had been studied

previously by Amidon and Giammatteo did a superior job in accepting, using, and encouraging student ideas. This seems to be one area in which the group of beginning teachers studied were low. The first year teachers were within the average range, but they were not high in the areas of accepting and using student ideas or in encouraging student ideas. The second year teachers were quite low in their use of these categories. The two groups of home economics teachers compared quite favorable with the superior teachers in the amount of time they spent in giving directions. Both of the groups rated below the average in this category just as did the superior teachers in other studies.

The first year home economics teachers were within the average range in lecturing, but they were nearing the top of this average. However, the second year teachers spent over half of their time in lecturing on the day on which they were observed. Following this pattern, the second year teachers also had less student talk. This probably means that some of the students did not have time to ask enough questions and have ideas expanded so that optimum learning could take place. One can see that the amount of student talk and the amount of lecturing are interrelated.

The two areas in which the technique, Interaction Analysis, pointed up weaknesses in these beginning teachers were in the accepting and using of student ideas, and in encouraging more student initiated participation. These are the areas in which the superior teachers from other studies rated higher than did the average teachers. From the observations done for this study, it would seem that the beginning home economics teachers need to learn about getting more student involvement in the learning process.

The home economics teachers in the schools visited appeared to be well respected. They seemed to have quite adequate facilities. The writer heard no comments from any of the teachers about lack of facilities or poor attitudes within the school toward home economics.

To the writer, it seemed that the interpretations of the observations which were made available to the teachers either through conferences or by correspondence were very valuable. All of the teachers requested an interpretation, and they were most anxious to know about the areas of verbal behavior in which improvements could be made. They also wanted to know how they could make these improvements. As the writer talked to the teachers, she found all of them sincerely interested in learning ways in which to evaluate themselves and ways in which they could improve.

The writer believes after carrying through this study that the technique, Interaction Analysis could be used to identify the same types of strengths and weaknesses in other teachers as those which were pointed up in this study. These findings then could be used to point out ways in which more effective inservice education could be planned. If the needs of the teachers are to be considered in the inservice education, a tool is needed to help discover the areas in which a teacher is less effective. It is felt by the writer that Interaction Analysis is one technique which can effectively be used to help determine teacher effectiveness in the area of verbal behavior.

Recommendations

In general after completing the study, the writer feels that it would be better to observe the teacher several times during her first year of teaching and during her second year of teaching. This would give a more accurate account of the total verbal behavior of the teacher. It might also help eliminate, to some extent, the anxiety which an observer causes within the room, that is the proper rapport can be set up between the teacher and the observer. If teachers were observed several times during a year, it would be possible to have a larger group of teachers to study so that some predictive conclusions might be drawn from the analysis.

It would seem feasible to the writer to use Flanders System of Interaction Analysis in the following ways to help teachers improve their effectiveness. When supervising student teachers or planning workshops as inservice education for supervisors of student teachers, one of the techniques which could be incorporated into this planning could be the use of Interaction Analysis.

As the student teachers are visited, the college supervisor could use this method of observation to study their verbal behavior. During the several visits, the normal improvement which takes place could be studied and the college supervisor would also have evidence to use as a basis for making recommendations to the student teacher for self-improvement. Comparisons could also be made with other studies of student teachers or beginning teachers. For example, a comparison could be made with the beginning teachers from Oklahoma included in this study with other student or beginning teachers. By analyzing

these findings, one could perhaps find a basis for some revision of the preservice education which is now being taught.

Interaction Analysis could also be taught to the students in a Methods of Teaching class. A problem could be set up in which the class would be divided into two groups with one group being taught Interaction Analysis as a part of the class. When these student teachers were visited, records could be kept to find out if the students which had been taught Interaction Analysis as a part of their Methods in Teaching class encouraged more student-initiated talk and exerted more indirect influence than those who were not taught Interaction Analysis. As stated in the review of literature, this change of pattern occurred in elementary school teachers.

Workshops could be planned as inservice education in which the teachers who supervise student teachers could be taught Interaction Analysis. They could be encouraged to use it as a self-evaluation device as well as using it in their work with student teachers. As was brought out in the review of literature when both the supervising teacher and the student teacher know Interaction Analysis more is gained.

Since educators are often being accused of being ineffective and very slow to try new ideas, it would seem that the newer tools and ideas should be tried out and evaluated in relation to specific areas. These are a few of the ways in which the writer believes the technique, Interaction Analysis, can be a valuable tool in helping home economics teachers become more effective.

Another related study which might be helpful in pointing up some areas for inservice education would be a study in which the verbal

behavior of beginning teachers would be compared to the verbal behavior of experienced teachers to find out if experience is a factor in effectiveness in verbal behavior.

In any type of effective inservice education, the teacher herself has to truly want to improve. If she does want to improve, another way in which Interaction Analysis can be used is a method of self-evaluation. It does provide a feedback of the classroom behavior and would seem to be a valuable tool for the dedicated teacher to learn to use in this manner.

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APPENDIX A

Stillwater, Oklahoma
April 12, 1967

Mr. _____
Superintendent of Schools
_____, Oklahoma

Dear Superintendent _____:

Your home economics teacher, _____, has indicated a willingness to cooperate in a research project designed to gather data for my thesis for my Ed.D degree.

The purpose of this study is to observe the verbal behavior of first and second year home economics teachers as a basis for making recommendations for inservice education which will promote better teaching. The method I plan to use is the Flanders Interaction Analysis System of classroom observation. To use this system, I will need to observe class discussions as they take place. From analysis of these observations, answers to the following types of questions can be determined:

Do I talk too much in the classroom?
How do I react to student ideas when they are expressed?
How much time do I spend in lecturing?
How effectively do I use praise?
How effective am I in communicating subject matter to my students?

I plan to make this information available to each individual teacher, if she so desires; otherwise, all information will be treated as group data and will be kept confidential.

I hope it will be permissible for me to come into the home economics classroom and make these observations. I will be in _____ on _____ and I will plan to stop in your office at _____ to answer any questions which you might have. Thank you.

Sincerely yours,

Elaine Jorgenson
Graduate Teaching Assistant
Home Economics Education
Oklahoma State University

March 29, 1967

Dear _____,

Your second year of teaching is about completed. I hope your experiences have been rewarding and enjoyable. As you have been working these two years, have you ever thought about the following or similar questions?

Do I talk too much in the classroom?
How do I react to student ideas when they are expressed?
How much time do I spend in lecturing?
How effectively do I use praise?
How effective am I in communicating subject matter to my students?

I would like to ask for your professional assistance as I plan a study for my thesis in which answers to these types of questions can be found. Through my study, I am planning to make some recommendations for both preservice and inservice experiences which would be helpful in the improvement of teaching. These recommendations will be based upon the analysis of an interview, some observations, and some taped classroom situations. This is where I need your help.

I would like to come to talk to you about what you feel are some weaknesses of beginning teachers related to verbal behavior or communication in the classroom. I would also like to observe two of your discussion classes sometime between April 15 and May 15. The amount of time involved in this would be about an hour to an hour and one-half. For this observation, I plan to use a system entitled, Flanders Interaction Analysis System. From these observations I will be able to help you find the answers to some of the above questions for yourself if you so desire.

If your name should be chosen for my sample, would you be willing to cooperate by granting me an interview and letting me observe two of your discussion classes at a pre-arranged time? All information gained from these techniques will be kept confidential. Please check the enclosed card and return it to me. If you check "yes" and are drawn for my sample, I will be contacting you and your principal soon.

Dr. Cozine, my advisor, and I hope you will find it possible to cooperate by being a participant in the study. Both of us feel it would be an interesting and valuable experience for you, as well as providing necessary data for my thesis.

Sincerely yours,

Elaine Jorgenson
Graduate Student

June Cozine
Advisor

INTERVIEW

Name _____

As a beginning teacher, how effective do you believe you are in verbal behavior? Most teacher influence is exerted by the use of verbal statements. Verbal behavior consists of the communication and interaction which goes on in the classroom through the choice of words, the tone of voice and the inflection of the voice. How effective are you in the following:

1—very low 2—below average 3—average 4—above average 5—very high

1. Interpreting the way students feel as they interact in the classroom. ____
2. Accepting the feelings of your students. ____
3. Helping students in clarifying and in accepting their feelings. ____
4. Praising students as you interact with them. ____
5. Encouraging students as you interact with them. ____
6. Releasing class tensions in acceptable ways. ____
7. Using student suggestions. ____
8. Building upon the student suggestions. ____
9. Clarifying student suggestions. ____
10. Asking understandable questions. ____
11. Asking clear questions. ____
12. Asking relevant questions. ____
13. Giving appropriate directions. ____
14. Giving easily understood directions. ____
15. Using appropriate voice tones when giving directions. ____
16. Using criticism to change student behavior. ____
17. Using yourself as an authority. ____
18. Using appropriate discipline techniques. ____

INTERVIEW--Continued

19. Keeping confusion out of the classroom. _____

20. Spending time in lecturing. 1/4 of the time____ 1/2____ 3/4____

A Combined Matrix for Each Individual Teacher Observed

Teacher A

	1	2	3	4	5	6	7	8	9	10	
1	0	0	0	0	0	0	0	0	0	0	
2	0	0	1	2	4	0	0	19	6	1	
3	0	3	9	2	2	0	0	13	3	0	
4	0	8	2	41	66	1	0	23	8	7	
5	0	10	13	25	438	2	0	53	17	18	
6	0	0	0	1	2	3	0	2	0	2	
7	0	0	0	1	0	0	0	0	0	0	
8	0	10	5	66	27	1	1	207	1	15	
9	0	1	1	8	16	1	0	9	86	4	
10	0	1	1	10	21	2	0	7	5	21	
Total	0	33	32	156	576	10	1	333	126	68	1335
Column %	.00	2.40	2.40	10.10	43.90	.60	.07	25.30	8.00	5.23	

Teacher B

	1	2	3	4	5	6	7	8	9	10	
1	0	0	0	0	1	0	0	1	0	0	
2	1	0	0	0	0	0	0	0	0	0	
3	0	0	12	5	5	0	0	12	1	1	
4	1	1	10	63	62	7	0	24	1	6	
5	0	0	12	19	1313	11	7	38	6	20	
6	0	0	1	3	13	22	2	0	0	2	
7	0	0	0	0	8	0	12	1	0	1	
8	0	0	1	71	4	1	1	181	1	1	
9	0	0	0	0	7	0	0	2	92	0	
10	0	0	0	14	13	2	0	2	0	25	
Total	2	1	36	175	1426	43	22	261	101	56	2121
Column %	.09	.04	1.70	8.30	67.04	2.10	1.10	12.30	4.73	2.60	

A Combined Matrix for Each Individual Teacher Observed

Teacher C

	1	2	3	4	5	6	7	8	9	10	
1	0	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	0	
3	0	0	25	2	3	0	0	23	11	1	
4	0	0	5	14	23	1	0	9	3	6	
5	0	0	20	5	749	8	0	21	27	11	
6	0	0	0	0	7	14	0	2	3	0	
7	0	0	0	0	0	0	1	1	0	0	
8	0	0	7	33	13	1	0	128	0	6	
9	0	0	7	2	31	1	0	2	200	4	
10	0	0	1	5	15	1	1	2	3	35	
Total	0	0	65	61	841	26	2	188	247	63	1493
Column %	.00	.00	4.31	4.01	56.10	1.62	.20	3.52	16.51	3.73	

Teacher D

	1	2	3	4	5	6	7	8	9	10	
1	1	0	0	0	0	0	0	0	1	0	
2	0	0	0	0	0	0	0	0	0	0	
3	0	0	38	1	8	0	0	35	17	0	
4	0	0	0	19	26	1	2	11	4	0	
5	0	0	31	7	826	9	1	32	52	8	
6	0	0	1	0	9	23	0	1	4	2	
7	0	0	0	0	3	0	5	0	1	0	
8	0	0	20	35	25	1	0	149	0	2	
9	1	0	8	1	61	5	1	3	247	2	
10	0	0	1	0	7	1	0	2	3	13	
Total	2	0	99	63	966	40	9	233	329	27	1778
Column %	.001	.00	5.60	4.30	54.39	2.20	.50	13.	18.41	.015	

A Combined Matrix for Each Individual Teacher Observed

Teacher E

	1	2	3	4	5	6	7	8	9	10	
1	0	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	0	
3	0	0	15	0	2	0	0	4	16	1	
4	0	0	2	7	4	0	0	6	7	2	
5	0	0	4	0	152	0	3	15	24	8	
6	0	0	0	0	1	2	1	0	1	0	
7	0	0	0	0	4	1	11	0	4	1	
8	0	0	6	16	10	1	1	98	11	3	
9	0	0	9	4	26	1	3	19	223	6	
10	0	0	2	1	7	0	2	4	5	27	
Total	0	0	38	28	206	5	21	146	291	48	783
Column %	.00	.00	4.80	4.56	26.44	.65	2.75	16.50	37.10	7.20	

Teacher F

	1	2	3	4	5	6	7	8	9	10	
1	0	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	0	
3	0	0	4	3	1	0	0	49	2	1	
4	0	0	11	12	55	2	0	28	4	27	
5	0	0	24	7	479	1	0	70	15	9	
6	0	0	0	1	2	6	0	3	1	1	
7	0	0	0	0	1	0	2	0	0	0	
8	0	0	17	107	32	2	0	358	0	8	
9	0	0	2	1	12	2	0	4	144	3	
10	0	0	2	8	23	1	1	12	2	39	
Total	0	0	60	139	605	14	3	524	168	88	1584
Column %	.00	.00	3.10	8.60	38	.91	.19	33.19	10.51	4.90	

A Combined Matrix for Each Individual Teacher Observed

Teacher G

	1	2	3	4	5	6	7	8	9	10	
1	5	0	1	1	0	0	0	1	0	0	
2	0	0	1	1	2	0	0	3	2	1	
3	0	0	9	1	7	0	0	24	5	1	
4	1	3	9	74	59	2	0	25	8	24	
5	2	5	15	25	1149	1	1	41	25	22	
6	0	0	0	1	3	8	0	0	2	1	
7	0	0	0	0	1	0	1	1	0	0	
8	0	1	8	67	12	0	0	322	6	16	
9	0	0	3	8	26	2	0	10	131	4	
10	0	1	1	27	27	2	1	5	5	124	
Total	8	10	47	205	1286	15	3	432	184	193	2383
Column %	.003	.004	.019	8.75	53.30	.60	.20	18.32	7.82	8.42	

Teacher H

	1	2	3	4	5	6	7	8	9	10	
1	0	0	0	0	0	0	0	1	0	0	
2	0	1	0	1	1	0	0	1	1	1	
3	0	0	1	0	0	1	0	2	0	0	
4	0	0	0	24	27	0	2	9	5	2	
5	0	1	3	4	2448	2	24	29	84	25	
6	0	0	0	0	1	0	0	1	2	0	
7	0	0	0	1	30	0	88	0	5	0	
8	1	2	0	31	8	0	0	247	2	7	
9	0	2	0	6	83	1	9	4	773	7	
10	0	0	0	2	22	0	1	4	13	45	
Total	1	6	4	69	2620	4	124	298	885	87	4098
Column %	.02	.17	.09	1.51	64.0	.09	2.97	7.41	21.61	2.20	

A Combined Matrix for Each Individual Teacher Observed

Teacher I

	1	2	3	4	5	6	7	8	9	10	
1	2	0	0	0	0	0	0	1	1	0	
2	0	0	0	0	0	0	0	0	0	0	
3	0	0	1	1	4	0	0	21	0	0	
4	2	0	10	5	68	1	0	37	9	6	
5	0	0	9	13	380	5	0	59	31	3	
6	0	0	0	0	2	4	0	2	1	1	
7	0	0	0	0	0	0	0	0	0	0	
8	0	0	6	116	3	0	0	83	0	0	
9	0	0	1	1	36	0	0	4	70	3	
10	0	0	0	2	7	0	0	1	3	10	
Total	4	0	27	138	500	10	0	208	115	23	1025
Column %	.43	.00	2.5	13.00	51	1.0	00	19.70	10.30	2.40	

Teacher J

	1	2	3	4	5	6	7	8	9	10	
1	0	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	0	
3	0	0	0	0	1	0	1	27	3	0	
4	0	0	4	5	58	0	2	48	6	4	
5	0	0	11	3	725	6	6	42	8	9	
6	0	0	0	0	6	5	0	1	0	0	
7	0	0	0	1	6	0	8	1	1	0	
8	0	0	15	109	2	0	0	275	0	4	
9	0	0	2	1	7	0	0	8	111	0	
10	0	0	0	8	5	1	0	3	0	1	
Total	0	0	32	127	810	12	17	405	129	18	1550
Column %	.00	.00	2.58	8.30	52.10	7.0	1.0	26.10	8.0	1.22	

A Combined Matrix for Each Individual Teacher Observed

Teacher K

	1	2	3	4	5	6	7	8	9	10	
1	0	0	1	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	0	
3	0	0	1	3	0	0	0	32	4	1	
4	1	0	13	0	60	0	0	70	12	22	
5	0	0	18	2	404	7	0	52	23	15	
6	0	0	0	0	2	1	0	3	0	3	
7	0	0	0	0	0	0	0	0	0	0	
8	0	0	2	156	9	0	0	46	1	9	
9	0	0	2	0	24	0	0	11	44	6	
10	0	0	4	17	22	1	0	9	3	28	
Total	1	0	41	178	521	9	0	223	87	84	1144
Column %	.08	.00	3.62	16.52	46.50	.78	.00	17.50	7.60	7.40	

Teacher L

	1	2	3	4	5	6	7	8	9	10	
1	0	0	1	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	0	
3	1	0	9	0	2	0	0	19	19	1	
4	0	0	3	1	16	0	0	7	2	6	
5	0	0	20	2	246	0	0	11	13	7	
6	0	0	0	0	0	0	0	0	0	0	
7	0	0	0	0	0	0	0	0	0	0	
8	0	0	3	24	3	0	0	770	0	15	
9	0	0	12	2	17	0	0	3	156	3	
10	0	0	3	6	15	0	0	5	3	24	
Total	1	0	51	35	299	0	0	815	193	56	1450
Column %	.06	.00	3.31	2.52	20.88	.00	.00	56.51	13.50	3.30	

Combined Matrix of the First Year Beginning Teachers

	1	2	3	4	5	6	7	8	9	10	Total	
1	1	0	0	0	1	0	0	1	1	0	4	
2	1	0	1	2	4	0	0	19	6	1	34	
3	0	3	103	39	21	0	0	137	50	4	357	
4	1	9	30	157	241	12	2	101	26	48	635	
5	0	10	105	67	2575	35	12	231	141	80	3256	
6	0	0	2	5	41	80	3	9	9	7	156	
7	0	0	0	1	16	3	32	1	5	2	60	
8	1	10	72	309	117	8	3	1127	13	35	1695	
9	0	1	27	17	153	10	4	38	992	19	1261	
10	0	1	9	38	87	8	4	31	18	194	390	
Total	4	34	357	635	3256	156	60	1695	1261	390	7848	Matrix Total
Column Percent	.052	.43	4.20	8.20	41.42	1.00	.70	23.0	16.0	5.0		

Combined Matrix of the Second Year Beginning Teachers

	1	2	3	4	5	6	7	8	9	10	Total	
1	6	0	2	1	0	0	1	3	1	0	14	
2	0	1	1	2	3	0	0	4	3	2	16	
3	1	0	21	4	15	1	1	119	32	2	196	
4	4	3	36	109	290	3	4	193	44	66	752	
5	2	6	73	50	5333	22	31	260	184	81	6042	
6	0	0	0	1	14	11	0	15	5	5	51	
7	0	0	0	2	37	0	97	3	3	0	142	
8	1	3	37	503	36	7	0	1743	5	51	2386	
9	0	2	16	18	227	3	6	19	1282	23	1596	
10	0	1	10	62	87	4	2	27	37	232	462	
Total	14	16	196	752	6042	51	142	2386	1596	462	11657	Matrix Total
Column Percent	.13	.13	1.6	6.4	51.	4.	1.2	20.	13.9	3.31		

VITA

D. Elaine Jorgenson

Candidate for the Degree of

Doctor of Education

Thesis: ANALYSIS OF VERBAL BEHAVIOR OF BEGINNING HOME ECONOMICS TEACHERS AS A BASIS FOR RECOMMENDATIONS FOR INSERVICE EDUCATION

Major Field: Home Economics Education

Biographical:

Personal Data: Born July 8, 1928, in Minnehaha County, South Dakota.

Education: Attended elementary school in Minnehaha County, South Dakota; graduated from Lyons Consolidated High School, Lyons, South Dakota in 1946; received the Bachelor of Arts degree from Colorado State College, with a major in Home Economics in 1957; received the Master of Arts degree from Colorado State College, with a major in Home Economics in 1961; completed requirements for the Doctor of Education Degree in the fall of 1967.

Professional experience: Taught elementary school in South Dakota from 1946-1955; worked as Assistant Home Demonstration Agent during summers of 1952, 1953, 1954; taught Vocational Home Economics in high school in South Dakota, 1957-1959; taught in the School of Home Economics at Eastern Illinois University, Charleston, Illinois from 1961 to present time; presently an assistant professor and acting head of the Department of Home Economics Education within the School of Home Economics at Eastern Illinois University.

Professional organizations: Member of Phi Upsilon Omicron, Omicron Nu, Kappa Delta Pi, Pi Lambda Theta, Delta Phi Delta, American Home Economics Association, National Council of Family Relations, National Education Association, Association for Student Teaching, Illinois Home Economics Association, Illinois Council of Family Relations, Illinois Education Association, and Illinois Association for Student Teaching.