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An Analysis of the Individual Reading Conference in the Fourth, Fifth, and Sixth Grades

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AN ANALYSIS OF THE INDIVIDUAL READING CONFERENCE IN THE FOURTH, FIFTH, AND SIXTH GRADES

by

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This dissertation submitted by Harold E. Stolt in partial fulfillment of the requirement for the Degree of Doctor of Education from the University of North Dakota is hereby approved by the Faculty Advisory Committee under whom the work has been done.

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ABSTRACT

Problem

The purpose of this study was to determine the effect of in-service training in individual reading conferences and interaction analysis on the individual reading conferences conducted by elementary school teachers in the fourth, fifth, and sixth grades.

Procedure

The research population consisted of fourteen public school teachers. The subjects were divided into a control group and an experimental group and matched according to grade level taught, sex, and years of teaching experience. The experimental group was treated to an in-service program which included training in interaction analysis and the individual reading conference.

Pre and post audio tape recordings were obtained from each group for purposes of comparison. In addition, a follow-up tape was obtained from the experimental group three months after the posttape to determine if changes resulting from the treatment persisted. The data were collected during the 1969-70 school year. Observers trained in interaction analysis analyzed the tapes. The data were studied by recording the observations in ten-row by ten-column matrices. The statistical technique employed in this study was chi-square.

Summary of Findings

1. Training teachers in the use of interaction analysis and the individual reading conference resulted in significantly less teacher-directed student talk and significantly more student-initiated talk.

2. No significant difference was found in the amount of teacher talk as a result of training in interaction analysis and the individual reading conference.

3. Teachers trained in the use of interaction analysis and the individual reading conference used significantly more indirect influence and significantly less direct influence.

4. Teachers trained in the use of interaction analysis and the individual reading conference became significantly more accepting of the student's feelings and ideas.

5. No significant difference was found in the teacher's use of praise and encouragement as a result of training in interaction analysis and the individual reading conference.

6. Training teachers in the use of interaction analysis and the individual reading conference resulted in significantly less emphasis being placed upon the content of the material read.

7. Training teachers in the use of interaction analysis and the individual reading conference resulted in significantly more use of the individual reading conference as an intimate sharing period which may serve guidance and counseling purposes.

8. The amount of attention given during the individual reading conference to planning for follow-up activities was significantly

increased as a result of training in interaction analysis and the individual reading conference.

9. No significant difference was found in the amount of student oral language expression as a result of training in interaction analysis and the individual reading conference.

CHAPTER I

INTRODUCTION

Significance of the Study

In recent years there has been an increasing emphasis upon the individual reading conference as a part of the reading program in the elementary school. The individual reading conference is the focal point of the individualized reading program and is also gaining favor as an important adjunct to basal reading programs. As the conference becomes more widely used it also becomes more important that the conference time be used as effectively as possible to facilitate the teaching-learning process.

The over-all effectiveness of the individual reading conference for the improvement of the student's reading ability will be affected by the procedure which the teacher employs in conducting the conference. The procedure may be determined or at least affected by the content of the conference. The desired outcome of the individual reading conference as well as the procedure and content may be determined or affected by the purpose of the conference. Authorities in the field of reading have offered specific suggestions concerning the procedure, purpose, content, and outcome of the individual reading conference; an awareness by the teacher of what these writers have proposed would appear to be beneficial.

The individual reading conference is an important part of the total reading program. Barbe (1961) referred to it as the very core of the program and stated that no phase of the reading program is as important. Barbe (1961) indicated that part of the value of the individual reading conference resulted from the enthusiasm with which children responded to this period of personal attention given by the teacher. Robinson (1960) stated that this display of special interest is one of the major assets of the individualized reading approach. Hunt (1967), Betts (1957), and Veatch (1967) all pointed out the importance of the individual reading conference to the instructional reading program. The significance of the individual reading conference to the basal reading program was pointed out by Criscuolo (1969), Sartain (1960), and Strang (1965).

The significance of the individual reading conference to the over-all development of the child was pointed out in a statement by Heilman (1967, p. 349):

> The structure and prevelant practices of the present-day school are not conducive to close personal relations between teacher and pupils. Large classes, too many classes per day, and administrative and instructional busy work often stand as barriers between teacher and pupils. We extol creativity and yet teach to the "golden mean." We establish professional philosophy which stresses the importance of teaching to children's needs and interests, yet leave it possible for a student to complete his formal education without ever having had ten minutes of a teacher's undivided attention.

To enhance the close relationship that is exigent to the individual reading conference it is vital that the teacher be aware of the interaction between himself and the student. The verbal interaction between the teacher and the student is a fundamental component of this interaction; therefore, a careful examination of this verbal interaction would appear to have merit.

The recent work dealing with the training of teachers in verbal interaction analysis indicated that this training may be appropriate for use in the individual reading conference. Verbal interaction analysis training has proven effective not only in promoting more effective pupil-teacher communication in general classroom situations, but also in helping the teachers to become more accepting of pupils. It would seem that the training of teachers in verbal interaction analysis could promote increased effectiveness of the verbal communication process in the individual reading conference. Also, the training of teachers in verbal interaction analysis might help the teacher become more facilitating to the student in the conference relationship. As yet, the relationship of teacher training in verbal interaction analysis to the individual reading conference has not been studied.

Statement of the Problem

The major purpose of this study was to determine the effect of in-service training in individual reading conferences and interaction analysis on the individual reading conferences conducted by elementary school teachers in the fourth, fifth, and sixth grades.

Research Questions

The major research question posed in this study is:

I. Does training in the use of the individual reading conference and interaction analysis improve the over-all effectiveness of the individual reading conference?

Specific research questions are as follows:

1. Does training in the use of interaction analysis and the individual reading conference significantly improve the percentage of student talk as compared to teacher talk?
2. Does training in the use of interaction analysis and the individual reading conference significantly affect the amount of indirect and direct teacher influence?
3. Does training in the use of interaction analysis and the individual reading conference significantly increase the teacher's acceptance of the student's feelings and ideas?
4. Does training in the use of interaction analysis and the individual reading conference significantly increase the teacher's use of praise and encouragement?
5. Does training in the use of interaction analysis and the individual reading conference significantly increase the teacher's use of the individual reading conference as a time to gain information concerning the student's knowledge of the content of the material read?
6. Does training in the use of interaction analysis and the individual reading conference significantly increase the use of the individual reading conference as an intimate sharing period which may aid guidance and counseling purposes?

7. Does training in the use of interaction analysis and the individual reading conference significantly increase the attention given during the individual reading conference to planning for individual or group follow-up activities?
8. Does training in the use of interaction analysis and the individual reading conference significantly increase the use of the individual reading conference as a means of providing for oral language expression?

Scope and Limitations

This study was limited to fourteen teachers from the master's degree program of the New School of Behavioral Studies in Education located at the University of North Dakota in Grand Forks. The seven teachers in the experimental group were currently teaching in the fourth, fifth, and sixth grades in Minot, North Dakota, while the seven teachers in the control group were currently teaching in the fourth, fifth, and sixth grades in various schools throughout the state of North Dakota. Although a serious attempt was made to control all variables, such as class size, years of teaching experience, sex, and grade level taught, it must be recognized that teacher competency would be a factor that could weigh heavily upon the outcome of the research.

It was also assumed that the Flanders System of Interaction Analysis was a valid and reliable measure of the verbal interaction between the teacher and the student.

Operational Definitions

Individual Reading Conference. The individual reading conference is a brief, intensive, personal contact between the teacher and a student on a one-to-one basis for the purpose of expediting the student's reading development.

Verbal Interaction Analysis. Verbal interaction analysis is a method which can be used for classifying the verbal interaction that takes place between the teacher and the student. The analysis is designed to differentiate through a ten category system the broad divisions of teacher talk, student talk, and silence or confusion. Flanders (1960) designed his system of verbal interaction analysis for classifying the verbal interaction that takes place between teachers and students.

Direct Influence. Direct influence consists of stating the teacher's own opinion or ideas, directing the pupil's action, criticizing the pupil's behavior, or justifying the teacher's authority or use of that authority.

Indirect Influence. Indirect influence consists of soliciting the opinions or ideas of the pupils, applying or enlarging upon those opinions or ideas, praising or encouraging the participation of pupils, or clarifying and accepting their feelings.

Indirect/Direct Ratio. The indirect to direct influence ratio is the ratio of the number of three second periods during which the teacher exerts indirect verbal influence upon the student to the number of three second periods during which the teacher exerts direct influence upon the student. In the Flanders System of Interaction Analysis, the

indirect to direct teacher influence ratio is the ratio of the total in categories one, two, three, and four divided by the total in categories five, six, and seven. An I/D ratio of 1.0 means that for every indirect statement, there was one direct statement; an I/D ratio of 2.0 means that for every two indirect statements there was only one direct statement.

Revised Indirect/Direct Ratio. A revised I/D ratio is employed to determine the kind of emphasis given to motivation and control. This ratio eliminated the effects of the two categories "asking questions" and "lecturing" and gives evidence about whether the teacher is direct or indirect in his approach to motivation and control.

Extended Indirect Influence. Extended indirect influence indicates the emphasis that the teacher gives to using student ideas, extending and amplifying student statements, and accepting and enlarging upon student feelings.

Extended Direct Influence. Extended direct influence indicates the teacher's emphasis on criticism, giving lengthy directions, or moving from one of these types of influence to the other.

Content Cross. Tallies in this area of the matrix represent teacher statements consisting primarily of lecture, statements of opinion, ideas, and information, and teacher questions about information and content that he has presented. A heavy concentration of tallies in this area indicates an emphasis on the content.

Student Initiated Talk/Student Response Talk Ratio. The student initiated talk to student response talk ratio is the ratio of the number of three second periods of student initiated talk to the number of three second periods during which the student is responding directly

to the teacher. In the Flanders System of Interaction Analysis the ratio is the number of category nine responses divided by the number of category eight responses. A ratio of 1.0 means that for every student initiated statement there was a student statement which was made in direct response to a teacher statement.

CHAPTER II

REVIEW OF LITERATURE

A review of the professional literature pertinent to this study reveals several important contributions. The review of related literature which follows deals with interaction analysis and the individual reading conference.

Interaction Analysis

The application of verbal interaction analysis as an observational system has been a recent development. Flanders (1960) described a verbal interaction observational system that is designed to give an objective analysis of the verbal interaction between teacher and pupil. The system developed by Flanders is a means of categorizing consecutive verbal communication acts through a coding system. Flanders (1960) called this system for observing and coding the verbal interaction between teacher and pupil "interaction analysis." There are two classification types for teacher statements; those teacher statements which elicit and encourage pupil participation are "indirect" statements and those teacher statements which dominate the classroom are "direct" statements. There are several teacher-talk categories, two student-talk categories, and one category for confusion or silence in the Flanders Interaction Analysis classification system. The teacher-talk classification consists of four indirect influence categories and

three direct influence categories. The student talk classification consists of a response category and an initiation category. The categories for Flanders System of Interaction Analysis are outlined in Figure 1. The assumption is made, as pointed out by Flanders (1968), that teaching behavior and pupil responses are expressed primarily through the spoken word as a series of verbal events which occur one after another. These events are identified, coded so as to preserve sequence, and tabulated systematically in order to represent a sample of the spontaneous teacher influence. Such a series is then entered into a matrix.

Amidon and Flanders (1967), Amidon and Hough (1967), and Flanders (1968) have emphasized the importance of the location of tallies on the matrix. Certain locations on the matrix appear to be of special importance. A summary of these tally concentration areas on the analysis matrix has been outlined (see Figure 2, p. 12). Areas A, B, C, and D can be used to find the percent of the time the teacher talks, the pupil talks, and the time spent in pauses, silence, or confusion. Comparisons between Areas A and B provide information about the relative balance between initiating and responding within teacher talk. Initiating teacher talk is more directive, tends to support the use of teacher authority, and restricts pupil participation. Responsive teacher talk is more indirect, tends to share authority, and expands pupil participation.

Area E (see Figure 2, p. 12) is a block of nine cells that indicates the continued use of acceptance and praise, constructive reaction to pupil feeling, and clarifying, accepting, and developing pupil ideas, as well as transitions among these three categories while the teacher is talking. Area F is a block of four cells that indicates

Teacher talk	Indirect Influence	1. Accepts feeling: accepts and clarifies the feeling tone of the students in a nonthreatening manner. Feelings may be positive or negative. Predicting and recalling feelings are included.
		2. Praises or encourages: praises or encourages student action or behavior. Jokes that release tension, not at the expense of another individual, nodding head or saying "uh huh?" or "go on" are included.
		3. Accepts or uses ideas of student: clarifying, building, or developing ideas or suggestions by a student. As teacher brings more of his own ideas into play, shift to category five.
		4. Asks questions: asking a question about content or procedure with the intent that a student answer.
	Direct Influence	5. Lectures: giving facts or opinions about content or procedure; expressing his own idea; asking rhetorical questions.
		6. Gives directions: directions, commands, or orders with which a student is expected to comply.
		7. Criticizes or justifies authority: statements, intended to change student behavior from nonacceptable to acceptable pattern; bawling someone out; stating why the teacher is doing what he is doing, extreme self-reference.
Student talk		8. Student talk-response: talk by students in response to teacher. Teacher initiates the contact or solicits student statement.
		9. Student talk-initiation: talk by students, which they initiate. If "calling on" student is only to indicate who make talk next, observer must decide whether student wanted to talk. If he did, use this category.
Other		10. Silence or confusion: pauses, short periods of silence and periods of confusion in which communication cannot be understood by the observer.

Note: There is no scale implied by these numbers. Each number designates a particular kind of communication event, 1960.

Fig. 1.--Flanders Categories for Interaction Analysis.

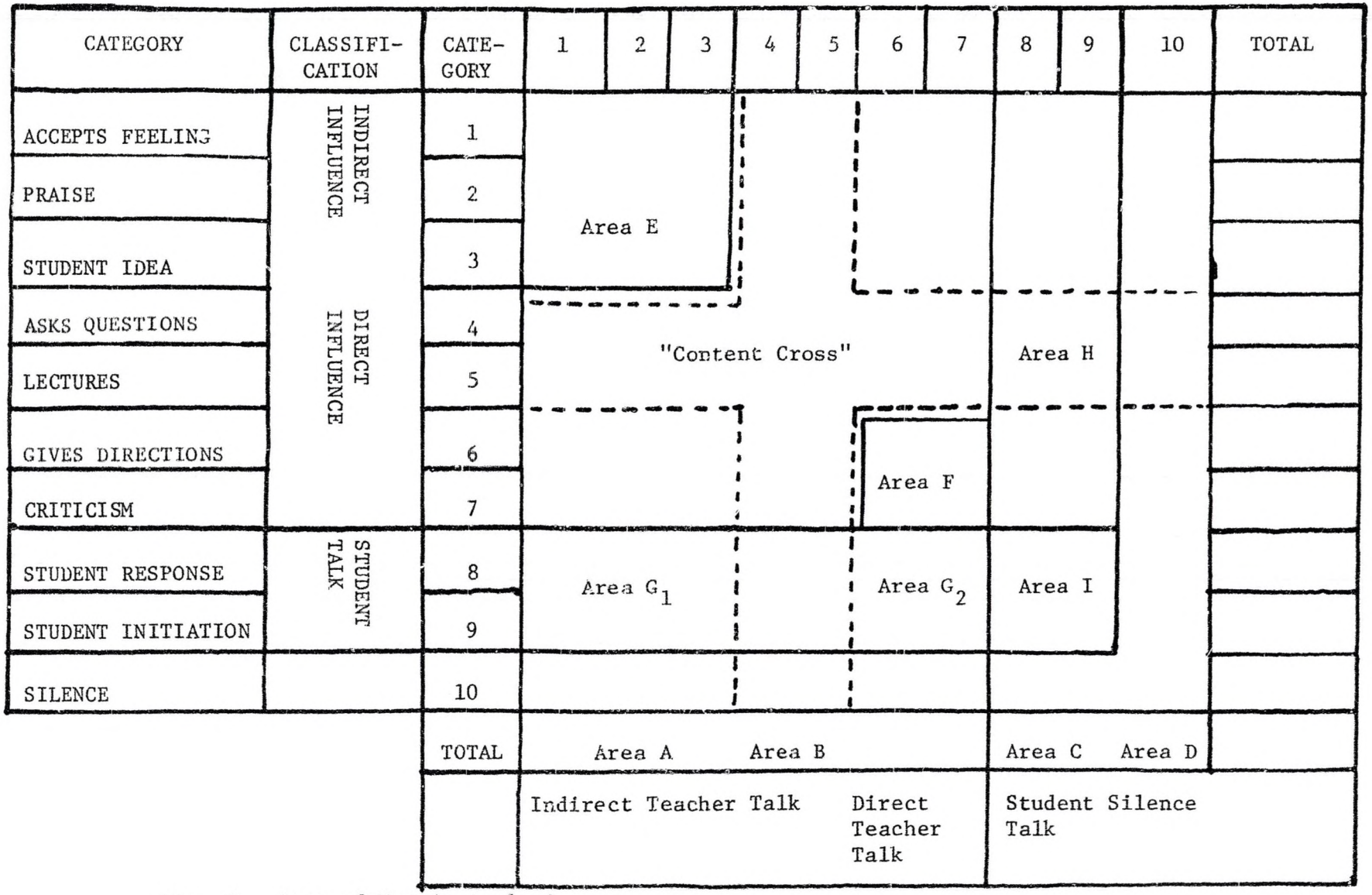

Fig. 2.--Area of Matrix Analysis.

the continued use of directions and criticism by the teacher and transitions between these two categories. Areas G_1 and G_2 isolate the immediate response of the teacher at the moment the student stops talking. Area H indicates the types of teacher statements that result in student participation. Responses to the teacher are found in column 8; statements initiated by the student are found in column 9. Area I indicates sustained student talk. The total number of tallies in the content cross area, compared with tallies not in the content cross area, provides an indication of the content orientation of the verbal interchange.

The usefulness of interaction analysis as a method of classifying the teacher-student verbal communication appears to have merit; it can provide an analysis to help determine if the type of teaching-learning situation described by Soar (1965, p. 53) exists:

> Clearly, the results of the researcher have not yet made easier the classroom teacher's job; but it seems increasingly clear that if abstract, inner-directed learning is valued, it will be achieved best by indirect teaching and a supportive emotional climate.

The verbal interaction observational system has been utilized in ways other than in an objective analysis of verbal interaction. Several recent studies have reported changes in teacher attitudes using teacher interaction analysis observational techniques as a method of teacher training. At a symposium on interaction analysis, Amidon and Simon (1965) reported that training in this area does help the teacher gain insight into teaching and provides a tool which teachers can use to change their behavior in order to be increasingly effective in human relationships.

Flanders (1963) conducted a project in which fifty-one teachers were trained in interaction analysis for a minimum of thirty hours. He found that the teacher's preferred style of teaching and the methods used by the teacher influenced the progress made by the teacher during the training period.

Hough and Amidon (1964) investigated the effect of experimental pre-service training in interaction analysis on the change in classroom behavior of teachers. They developed a pre-service training course called "The Teaching-Learning Process" which consisted of a two hour lecture and a two hour laboratory experience. The experimental group received two hours of instruction in learning theory and a two hour laboratory session in verbal interaction analysis. The training in interaction analysis was designed primarily to help the student teachers gain a personal meaning in student teaching. The control group received two hours of lecture on learning theory during both the lecture period and the laboratory period but received no training in interaction analysis. The findings of the study indicated that the student teachers in the experimental group were rated as more effective teachers than the student teachers in the control group. The study also reported that the experimental group changed significantly on the pre-test to post-test scores on a survey of attitudes toward the teaching situation.

In a study designed to compare actual classroom teaching behavior between student teachers trained in interaction analysis and those who were not, Furst (1965) reported that the former were able to demonstrate greater use of accepting teaching behaviors and less use of

rejecting teaching behaviors than the student teachers who were trained in the more traditional methods. Another finding of this study indicated that student teachers trained in the use of interaction analysis seemed to be more alert to and aware of the verbal interaction occurring in teaching situations.

Hough and Amidon (1965) hypothesized that the learning of interaction analysis would help student teachers to assess the behavior of pupils more accurately and to understand their own responses to pupil behavior. A second hypothesis indicated that skilled training in behavioral control that is related to the learning of interaction analysis helps the teacher develop skills to implement what he knows in a facilitative manner. The findings indicated that those student teachers who were trained in interaction analysis and who were most open in the belief-disbelief system, as measured by a Rokeach Dogmatism Scale, were able to change significantly in the desired direction as measured by the Teaching Situation Reaction Test.

Zahn (1967) reported that student teachers trained with the use of interaction analysis as an instructional and supervisory technique tended to gain more positive teaching attitudes, particularly those student teachers with strong belief systems, than did student teachers who did not receive this training. In a study of attitudes and teaching patterns of student teachers and cooperating teachers, Moskowitz (1967) found that not only did student teachers trained in interaction analysis use more indirect communication patterns, but that their attitudes toward cooperating teachers trained in interaction analysis were significantly more positive than their attitudes toward cooperating teachers who were not trained in interaction analysis.

Simon (1967) also studied the effects of training in verbal interaction analysis on the teaching patterns of student teachers. In this study the experimental group was trained to categorize and interpret the teacher and the student patterns of verbal interaction through the use of the Flanders System of Interaction Analysis. The control group was taught learning theory and role played situations using principles of learning. The findings indicated that student teachers trained in interaction analysis used more praise and extended indirect influence and less direct influence and criticism than did the control group.

In a study to compare five methods of human-relations training for student teachers, Hough and Ober (1967) found that student teachers who had been trained in interaction analysis differed in their verbal behavior from those student teachers who had received other training. The authors assumed that the student teacher became more sensitively aware of his own teaching behavior during the verbal interaction process with students.

Lohman, Ober, and Hough (1967) studied thirty student teachers who had training in interaction analysis and thirty student teachers who lacked such training to determine differences in teaching pattern. It was found that four to twelve months after training the teachers trained in interaction analysis used more indirect verbal behavior and less direct verbal behavior than teachers not trained in interaction analysis. From this study it appears that certain verbal behavior patterns developed through training in interaction analysis persist after training.

Soar (1966) found that indirect teaching produced greater growth in reading comprehension in elementary school pupils than did direct teaching. Soar's study also found that pupils who were taught by teachers using indirect influence progressed an average of five and one-half months in reading comprehension during the summer vacation while pupils who had been taught by teachers using direct influence had progressed three months during the same period. These results also would seem to indicate that teacher influence tends to last even after the formal classroom experience is finished.

Hough and Amidon (1967), in a study of behavior changes using training in interaction analysis, found that student teachers trained in interaction analysis changed their attitudes associated with student teaching. They found that student teachers trained in interaction analysis showed significantly more change during their student teaching experience in the direction of becoming more empathic in their relationships with pupils as measured by the Teacher Situation Reaction Test.

In a study to identify the verbal behavior patterns of teachers who were rated as superior by school administrators, Amidon and Giammatteo (1967) found the superior teachers to differ in several ways from the teachers not rated as superior in their verbal behavior patterns. The superior teachers used more acceptance of student feelings and acceptance of student ideas than the non-superior teachers. The teachers rated as superior used less lecture, direction-giving, and criticism than the other teachers. The students initiated statements fifty-two per cent of the time in the classes of superior teachers whereas students initiated statements forty per cent of the time in the classes of non-superior teachers.

Furst (1965), using the Flanders System of Interaction Analysis, found that above-average student achievement was positively related to indirect teacher influence and an indirect teacher response to student talk. Furst's study also found that the amount of student talk was positively related to student achievement.

The Individual Reading Conference

Importance of the Conference

The importance of the individual reading conference has been pointed out by many well-known writers in the field of reading. Barbe (1961, 1965) referred to it as the very core of the program and stated that no phase of the reading program is as important. It is at this time that the teacher successfully reaches the child and succeeds in teaching him to read, or fails to reach him and therefore fails to aid him in becoming a better reader. Barbe (1961, 1965) indicated that part of the value of the individual reading conference resulted from the enthusiasm with which the children responded to this display of special interest. Sartain (1969) referred to the individual reading conference as being of great importance because of the special appeal it held for the children. Robinson (1960) stated that this period of personal attention given by the teacher is one of the major assets of the individualized reading approach. Duker (1966) and Hunt (1967) also referred to the teacher-pupil conference as being central to the individualized reading program. In referring to this type of program, Harris (1962, p. 162) stated:

> These teacher-pupil conferences are considered to be an essential and uniquely valuable part of the procedure. They provide the main evidence for evaluating the pupil's reading and giving the help a child may need. Although the conferences do not come frequently, the children are said to gain a good deal of satisfaction from having the teacher's exclusive attention, and some writers assert that the number of minutes of personal attention each child receives is as much as, or more than, he would get during daily group reading lessons. It is also claimed that the teacher can get a clearer picture of the child's reading performance when attending to him exclusively than is usual in the more frequent but briefer pupil responses during group sessions.

Blakely and McKay (1966) suggested that one of the elements that distinguishes individualized reading from simple "free reading" is definite individual discussion and instruction involving the teacher and the pupil.

The individual reading conference also provides an opportunity for the teacher to find out more about the individual child and his needs than might otherwise be possible. As Betts (1957) stated, it enables the teacher to "learn" the individual. Hester (1964, p. 314) stated:

> Continuous evaluation is an asset in any program. Pupil-teacher conferences which cause teachers to become alert to pupil needs encourage teachers to observe and diagnose reading weaknesses and to provide guidance to help children overcome their difficulties.

The use of the individual reading conference as a necessary adjunct of the basal reading program was pointed out by Criscuolo (1969), Sartain (1960), Strang, McCullough, and Traxler (1955), Driscoll (1967), and Strang (1965). Carline (1967, p. 47) also indicated this when he stated: "Individual conferences become necessary because it is not likely that truly accurate notes can always be made during group activities." Evans (1965) stated that a well-balanced reading program

must also include some individual activities such as teacher-pupil conferences. Austin, Bush, and Huebner (1961) professed this same idea.

Veatch (1967) also pointed out the importance of the individual reading conference. In another of her writings (1966, p. 120) Veatch stated:

> The individual conference is the peak, the apex, the climax, the high point of the instructional reading program. Everything that comes before leads to it. Everything that comes after should be determined by what happens in it.

Preparation for the Conference

Spache and Spache (1969) pointed out the importance of having a planned but flexible conference. They suggested that the teacher should be prepared for intelligent questioning by previewing and knowing the relative difficulties or grade levels of the books the children are reading. Reviewing the record of the child's last conference would also be helpful. Tiedt and Tiedt (1967) also stressed the importance of teacher readiness for the conference and insisted that activities for extending learning must be planned so that students are doing more than just reading title after title. Heilman (1967) and Veatch (1966) added the reminder that all other pupils in the class should be engaged in some other meaningful activity during the conference time. Russell (1961) and DeBoer and Dallman (1964) expressed similar views.

Spache and Spache (1969) also stated that pupil readiness was second only in significance to teacher readiness. Various decisions which the student should make in preparation for the conference were pointed out by Veatch (1966), such as whether or not he wants to present this particular book for a conference, what he plans to do as a result of reading this book, and whether or not it is appropriate for

him to have another conference at this time. Stauffer (1969) suggested that, if a child comes for a conference when he is not prepared, he should be gently but firmly sent back. However, Barbe (1961) pointed out that the child should not feel that he must be formally prepared as if for a testing period.

Purpose, Procedure, and Content

A variety of interpretations have been given of the purposes, procedures, and content of the individual reading conference. To some writers, the conference is simply an opportunity for casual discussion of the child's reading selections, his enjoyment of the material read, and his probable future choices. To others, the conference may involve reading diagnosis, planning for related instruction which may include remediation, careful recording, review of the child's current and future reading, counseling, and perhaps other factors as well.

Spache and Spache (1969, p. 324) stated:

> Teacher skill in the conference determines whether there will be effective diagnosis of the pupil's instructional needs or any continuous evaluation of his overall reading development. The conference is a crucial opportunity for observation of the child's reading interests and his skills in word recognition, comprehension, oral and silent reading. In effect the recurring conferences become the major means of communication between the teacher and pupil in the area of reading instruction. On the one hand, the conference is the basis of teacher diagnosis, planning, and instruction; while on the other, it is the prime pupil opportunity for receiving personal instruction, guidance, and support.

Spache and Spache (1969) further suggested three types of conferences. One would be for diagnostic purposes, another for a skills inventory, and a third for evaluation of the child's growth in reading interests.

This is a further elaboration of Spache's discussion on conferences in his 1963 publication.

Strang, McCullough, and Traxler (1955, p. 40) presented much the same view when they stated:

> Individual guidance in reading, an intrinsic part of any program, may be achieved through individual conferences with each pupil two days a week, while the class is reading silently. In these conferences the pupil discusses his reading and vocabulary lists and obtains help in word analysis and other reading skills; he tells part of the story he is currently reading to give evidence of his comprehension. The teacher guides him in the selection of other books and stories for silent reading.

Hunt (1961) indicated that most skills teaching could be accomplished during the individual reading conference if the teacher sensed the balanced relationships within the four major skill areas: (1) sight-recognition vocabulary, (2) word-study, (3) oral-reading fluency, and (4) silent-reading efficiency.

Veatch (1964) suggested that during the conference the teacher should find out from the child the main idea of the story, the child's ability level or skill need, which character he likes best, why he thinks the author wrote the story, the value of the story to society, and how well he reads aloud. An assignment should then be made for the appropriate follow-up activity. These points were later elaborated upon by Veatch (1966, p. 50):

> Usually four areas should be explored in the individual conference: (1) the sheer mechanical ability of the child to read silently, (2) the ability to read critically, (3) the personal involvement of the child, (4) the ability of the child to hold an audience when reading aloud.

Barbe (1961) referred to the individual reading conference as an interview during which the teacher should check the student's

comprehension and provide instruction to meet the student's individual needs, but differed somewhat from most of the other writers by suggesting further that the individual reading conference should not be used for skills development except in an incidental way.

Hester (1964) also indicated that part of each reading period should be set aside for conference time with individual children. During this time a teacher tries to discover how a pupil feels about reading, what his interests are, and what skills need to be taught. Sartain (1965) concurred with this and suggested that during the individual reading conference the teacher should discuss the chosen story with the student, listen to his oral reading, and teach whatever skills are currently needed. The teacher should also lead the student toward an understanding and an appreciation of the qualities of good literature and try to interest him in further reading. Strang (1964, p. 33) stated:

> While members of the class are reading independently suitable books of their own choice, the teacher has time for individual conferences. In these conferences, he may ask the student to read a paragraph or two aloud. He first notes and approves something the student does well or better than before. Then he may give a little instruction and suggestions for practice in some skill in which the student needs to improve, such as phrasing--reading in thought units instead of word by word. With another student, the teacher may spend his ten minute conference in finding out how well he has comprehended the selection and in showing him one or two ways of improving his comprehension. With a student who can read but does not, the teacher may spend his time introducing this reluctant reader to a book that he may be persuaded to read outside of class.

The importance of using the individual reading conference to guide the student in the selection of future reading materials was also pointed out by Groff (1960, p. 110):

> Besides noting what books a child reads, his general reading ability and special word recognition problems, his interests, work habits, his peer relationships, the teacher should help the

> child set purposes for reading new books he has chosen. Guidance must precede as well as follow the child's reading. The child should be made well aware of his deficiencies in skills and interests, as there is convincing evidence that children are unable to recognize many of their deficiencies in reading. During this time the teacher guides and extends childrn's interests by suggesting other books they may like to read.

Sartain (1965) concurred with attempts to interest the student in further reading and also suggested that during the conference the teacher should discuss the chosen story with the student, listen to his oral reading, teach whatever skills are currently needed, and lead the student toward an understanding and an appreciation of the qualities of good literature.

Smith (1965) also suggested that the teacher use the conference time to find out what the child has read since the last conference, to evaluate by means of carefully thought out questions the degree of comprehension, to take note of special needs and difficulties and give specific help with these, and to keep a careful record of the child's reading capabilities and needs and his developmental progress. Bond and Wagner (1966) concurred and further suggested that the teacher guide the child, at least to some extent, in the future choice of material. Smith (1963) added to the list of conference uses by suggesting that the conference also be used to go over test results and to help the child understand where he stands in vocabulary, comprehension, and speed.

Hunt (1967, p. 4) stated:

> Within the conference the teacher uses all of her talents and knowledge to intensify the child's involvement with ideas and words. During this time teacher and child may discuss appealing aspects of the book, ideas presented by the author, implications of these ideas as guides for living, and the child's personal reaction to the book. The teacher determines whether the child knows in general what is happening and can select the important ideas in the book.

Hunt (1967) also stated that skillful questioning by the teacher was of great importance for the success of the conference. He placed questions in three categories concerning the appropriateness of the book, the child's appreciation of the book, and values gained from the book.

Veatch (1966, 1967) also noted the importance of the proper type of questions and insisted that they be open-ended and thought-provoking. She suggested that they be used to examine and evaluate four main areas during the conference. The comprehension area includes the main idea of the book, an appraisal of the child's value structure, inferential and critical reading, knowledge of the sequence of the story, and information about the author. Another area deals with the reasons for the choice of book and clues to the child's personality. This involves personal identification, awareness of peer-group action, and evidence of modification of behavior. A third area is that of mechanical skills. This area includes word definitions, study skills, the ability to analyze unknown words, and reading for details. The fourth area involves oral reading during the conference. Veatch (1967, p. 134) presented some specific pointers for asking questions:

1. Use questions that, while based upon the reading matter, help a child relate real life to what he has read.
2. Ask short provocative questions that produce long thoughtful answers.
3. Ask questions that help a pupil to widen his horizons from whatever limited base the reading matter might hold.
4. Frequently begin questions with the words, "Why, what, when."
5. Ask questions that stretch a child's ability to answer. Without making the situation unduly embarrassing, be hesitant to provide answers.
6. Encourage answers that are original with the child and, better yet, new to the teacher.
7. Present questions that show a pupil he has the right to his own opinions, even though he is asked to consider more than one point of view.
8. Ask questions that drive behind the actual facts presented in the material.

9. Ask questions that have worth in themselves, and are not designed to help a pupil guess the answer in the teacher's mind.
10. Give the pupil opportunity to think over an answer after the question has been given. Rapid-fire questioning may disorganize some pupils.

Other writers have also placed great emphasis upon the importance of proper questioning during the individual reading conference. Cleary (1957) insisted that astute questions are necessary to ascertain if the student has extracted anything of value from the book and to help the student reach generalizations. Cleary (1957) further suggested that, although the child may read the book for the story rather than the message, he will learn to enjoy reflecting and thinking about a book if questions are asked that encourage him to do so. Austin and Morrison (1963) referred to "master teachers" as those who not only used the conference period to ascertain what the student knew about the content of the book, but also helped develop the student's ability to think critically by asking a number of challenging questions related to the interpretation and evaluation of the material read. Hunt (1965) stated that the success of the conference depends on the art of questioning developed by the teacher. Reeves (1966) stated that a teacher can discover in a very short time, through skillful questioning during the individual reading conference, any difficulties with reading that a student is having.

West (1964) cautioned that the teacher should be careful to avoid the type of query that will tend to predispose the child to answer in the way he thinks the teacher wants him to. West (1964, p. 86) stated:

> One may quite easily, though inadvertently, reveal personal feelings and prior knowledge in the wording of a question that will place the child in the position of anticipating what is in the questioners mind and then formulating an answer he thinks he wants to hear. Allowing the child to come to his own conclusions and to make his own value judgments is important to the development of his maturity as a reader.
>
> Once the child has furnished some background information on what he has derived from the material he has read, a discussion usually follows. During this phase, characters of the book or story are evaluated, various incidents that are basic to the plot or that may have especially interested the youngster are analyzed, comparisons with other stories may be made, and comprehension is checked with some detailed questions which may require the child to skim back into the material to locate specific references. The child may also be asked whether the book was difficult or easy for him to read, what words he got stuck on or didn't know, and what methods he used to attack unknown words encountered.

Hunt (1964) stated that the success of the conference depends on the kinds of questions asked by the teacher. Perceptive, penetrating questions can give insight relatively quickly into the depth of a child's reading. Hunt (1964) grouped specific questions into three major categories concerning: (1) appropriateness of the book, (2) appreciativeness of the book, and (3) values gained from the book. Groff (1962) suggested that a prepared list of comprehension questions for the library books that students read should be made available. Heilman (1967) pointed out that the use of judicious questions could help the child develop a higher level of values and self-understanding and that the type of responses the student makes the first time will tend to set the pattern for subsequent conferences.

Besides using the conference to check on comprehension, oral and silent reading ability, word attack skills, and reading habits and interests, Barbe (1961) suggested that it could also be used for remedial purposes and as a counseling session. Carter and McGinnis (1953) stated that the teacher should make careful observations of

her students and occasionally do corrective or remedial work with individual students. Russell (1961) added the reminder that, besides using the conference for remedial work, it should also be used to lead and guide the gifted and to help the average.

Several writers have stressed using the individual reading conference for guidance and counseling purposes. The need for this was pointed out by Cleary (1957) who suggested that the conference could give the teacher a perspective of the student that may not be obtainable from the student's cumulative record and that it could create a kind of empathy, a sharing of interests, and a genuine intelligent regard for the worth of the other individual. Cleary (1957, p. 136) stated further:

> Since reading interests and abilities are highly individualistic and since young people read for such a wide variety of purposes, it is the face to face relationships with an understanding adult that gives the pupil the kind of assistance that goes far beyond "encouraging the child to read."

Strang, McCullough, and Traxler (1955) suggested that in the individual reading conference the aim should be to deal not so much with the reading as with the student. Harvilla (1964) stated that the conference time provides a confidence time for the teacher and the student, a very personal period for the teacher, the student, and the book. Heilman (1967) indicated that a close personal relationship should be developed between the teacher and the student during the individual reading conference, that the conference should be ego-satisfying to the child, and that the teacher can then arrive at an appraisal of the child's reading ability and determine instructional needs. Groff (1960, p. 110) stated:

> An outstanding value of the conference is that the child talks freely about his most serious shortcomings, fears, and worries,

> assured these will be kept confidential. The teacher can counsel without appearing over-anxious, annoyed, or disappointed, guiding the child to assume responsibility and self-management while allaying any uncertainty, worry, doubt, or emotional distraction. He is able, also, to set up procedures to give the child convincing evidence of his progress.

The positive effects which the individual reading conference should have upon the development of the child were also expressed by Sobodzian (1969, p. 348):

> Through the conferences, teachers acquire the habit of looking at individuals rather than groups. Unique personalities emerge; teachers note which factors motivate or handicap a child and the nature of the child's learning pattern. The child feels a greater security as the teacher takes a personal interest in him; his self-concept improves; oral language becomes more fluent; his attitudes toward reading become more positive; and more extensive reading occurs.

Strang (1964) suggested that the individual reading conference could be an effective way of working with and alleviating discipline problems. West (1964) stated that, beyond the sphere of reading guidance and instruction, these conferences may at times offer valuable entries into possibilities for ameliorating emotional or social difficulties, certainly not in the deliberate way that a pyschologist might, but in the incidental and sensitive man-to-child sort of way that can contribute a measure of therapeutic value.

Students who are having problems because of reading difficulties can also receive help through the individual reading conference according to Schubert and Torgerson (1968, p. 64):

> Build a warm relationship with each pupil and recognize that this relationship is basic to his mental health and academic achievement. The child who likes his teacher is more highly motivated to overcome handicaps than the child who is indifferent to his teacher. One way to establish the kind of rapport essential to success is through personal conferences. Convince the child by what you do, and tell him you are his friend. Usually, a child who repeatedly has met failure in

> reading needs a sympathetic and understanding adult who can help him rebuild feelings of adequacy. Be optimistic about the possibilities of improvement by showing the child you have confidence in his ability to achieve. Help the child understand the nature of his reading problem and provide him with the tools that will enable him to improve.

Heilman (1967) stated that the chief value of the individual reading conference is that it ties ego-satisfaction to the reading process; for a student to share his feelings about a book with his teacher is an excellent ego-building experience. Heilman (1967, p. 349) further stated:

> The teacher-pupil conference is worthy of further consideration because it also has possible therapeutic value. The conference serves as a catalyst which helps to produce teacher-pupil rapport, a factor which is highly underrated in its influence on learning. For some pupils, the teacher's positive response to their reading is a stronger motivation than the actual act of reading itself. The skillful, sympathetic teacher can provide this intrinsic reward while slowly moving the child toward accepting reading as its own reward.
>
> The conference provides the means by which the teacher can learn important facts about children's psychological needs and the means they have adopted for fulfilling these needs. With this knowledge, the alert teacher is in a position to become a party to sound bibliotherapeutic practices. Discussing their reading with a respectful adult will help children gain insights into their own problems and afford them examples of how others have met such difficulties.

It is also considered necessary to make record-keeping a part of the individual reading conference. Veatch (1966) suggested that the teacher use a three-ring dimestore notebook in which pages can be added or taken out as necessary to note the book read, the student's problems and interests, the date of the conference, and the suggested follow-up. From this the teacher can discern the deficiencies, skills, interests, projects and other items that it is necessary to know to plan the next conference. Hunt (1967) concurred with this while Carline (1967) suggested further that the students would gain encouragement from keeping

a set of records of their own or from keeping them jointly with the teacher. Spache and Spache (1969) also suggested that the students be involved in the record keeping but they also listed five basic types of records for the teacher to keep. The first type would include pertinent information from discussions with the previous year's teacher. A second record would include the child's instructional, independent, and potential reading levels. The third and fourth records would include his own oral reading behaviors and analysis for which a checklist might be provided. The final set of records would include those notes which the teacher deems adequate for judging and guiding the progress of the pupils. From these individual records, group records could be made. Keeping records for the purpose of reporting to parents on pupil progress was also pointed out by Hunt (1965).

West (1964) indicated that there seemed to be general agreement among those who have written about individualized reading that (1) records kept by both the children and the teacher are an essential adjunct to the program and can yield a multiplicity of useful purposes and (2) the keynote in designing and maintaining these records should be simplicity. West (1964) suggested that the students keep annotated bibliographic records, either on five-by-eight cards for alphabetical filing or on loose-leaf paper divided into columns with appropriate headings (date, author, title, publisher, pages) of the books they read during the year. While agreeing that students could be provided with an ego-building experience by keeping their own records and seeing their book lists grow, Heilman (1967) added the caution that such lists could become improper motivators that could lead to undesirable competition and comparison.

Referring again to the importance of simplicity in record keeping, West (1964, p. 93) stated:

> . . . if record keeping becomes too cumbersome or complicated, the teacher will find himself bogged down with clerical detail. Several writers have suggested that the teacher's records of children's progress be kept in a loose-leaf note book, one page for each child. When a conference is held with an individual youngster, the date of the conference, the title of the material read, special difficulties that he may be encountering, his reactions to the content of the reading material, and other comments the teacher may feel are important are recorded.

Groff (1962) suggested that a written record should be kept for and by each child and that a typical teacher's record could include test scores, books read, word attack, comprehension, and oral reading problems.

Heilman (1967) pointed out that many teachers supplement the child's records with check lists or cumulative accounts of observed reading behaviors. Check lists can take many forms, but usually they make provision for teacher's responses to a large number of skills and reading habits ranging from knowledge of sight words and sounding ability to use of study skills and reading interests. Driscoll (1967) suggested that workable forms be provided to record each pupil's intelligence tests, formal and informal reading tests, reading level, interests, attitudes, weaknesses, strengths, assignments, completion of tasks, techniques which work best for each pupil, and a cumulative list of his reading. Vilscek (1967) suggested that individual pupil performance or attitudes in applying word recognition techniques, in employing study skills, in linguistic applications, in comprehending, and in demonstrating literary tastes can be noted and recorded on charts, checklists, or anecdotal summaries for future planning and evaluation. Groff (1960) had stated similar views.

Posner (1961) was concerned with keeping a record of the skills of comprehension, word recognition, contextual clues, configuration clues, phonetic analysis, vocabulary building, location skills, and organization. Posner (1961) also included data on the child's informational and recreational reading. Groff (1960) also stressed the importance of keeping a skills record but included notes on the student's critical thinking, his appreciation of the literary quality of the material read, his attitude toward reading, his work habits, and his oral reading. Hunt (1961), Harris (1962), Smith (1963), Hester (1964), Veatch (1964), Groff (1964), and Barbe (1965, 1966) all stressed the importance of keeping careful records of the individual reading conference. Metzler (1964) added the reminder that it is the use of the records that are kept rather than the form of the records that is of ultimate importance.

The various writers in the field of reading do not vary greatly in the length of time they suggest for an individual reading conference. Smith (1963), Harris (1962, West (1964), Evans (1965), Sartain (1965), Veatch (1966), Bond and Wagner (1966), Heilman (1967), Strang, McCullough and Traxler (1967), and Spache and Spache (1969) all indicated that the conference should be between two and ten minutes in length with the average being about five minutes. Barbe (1961) and Russell (1961) suggested that they be between five and fifteen minutes in length.

Although it is generally suggested that the teacher attempt to have from one to three conferences per week with each student, the frequency of the conferences will depend upon class size, student needs, teacher availability, grade and ability levels, and the amount of

material read by each student as well as other factors such as whether the conferences are all pre-assigned by the teacher or whether the students are permitted to sign up for the conferences on a voluntary basis.

The place where the individual conference is held should be a place in the classroom that is quiet, comfortable, and free from interruptions or unnecessary distractions. Barbe (1961) suggested that the teacher place herself off to one part of the room away from the other children, either at a desk or table, with a seat for the child nearby. Smith (1963) also suggested that the child should come to the teacher. Veatch (1966) stated that, for both psychological and educational reasons, the teacher and the student should be seated side by side with the material in front of them. However, there may be times when, for oral reading purposes, they may want to sit facing each other to provide a more natural audience situation.

All of the foregoing criteria for the individual reading conference suggest that the particular needs of the child involved should determine the substance of the conference. This leaves each teacher with the final responsibility for planning each conference. It may also be helpful to recall Veatch's (1966) reminder that the child presents only a portion of his total reading effort during the conference.

Closure

Proper closure of the conference is considered to be very important for psychological as well as for instructional reasons. Veatch (1966, p. 160) stated:

> In each case the conference should end with some kind of a summary statement by the teacher. The statement should be a kind of winder-upper for their work together. There should also be assignments, if necessary, in self-directed activities with

specific times for their checking scheduled or planned for. Some kind of positive comment, such as praise, should be included in the final seconds of a conference. There is always something that can be found--even if it seems only minor to the teacher. A change of attitude toward reading, a longer time spent in silent reading are examples of praiseworthy actions.

The teacher in individual, group, and class sessions must cultivate the sense of when to close. Reaching a climax, and then stopping even if there is still time, is better than dragging out a session that has lost its punch.

To conclude, closure is best done when the teacher:

1. Indicates follow-up with:
   a. Self-directed activities
   b. Group sessions
   c. Individual assignments
2. Finds something to praise
3. Concludes upon a high point.

Spache and Spache (1969) also stressed the importance of adequate follow-up of the conference, specifying such things as planning for the sequential development of skills, phonics elements, structural elements, types of contextual clues, and approaches to sight and meaning vocabularies. Book-sharing activities are frequently a part of the follow-up. All these things suggest that the teacher may need some materials at hand for the follow-up activities.

Summary

Research has shown that the training of teachers in verbal interaction analysis has proven effective in promoting more effective pupil-teacher communication in general as well as in helping teachers to become more facilitating and accepting of pupils. This is of concern for the individual reading conference because the over-all effectiveness of the individual reading conference is directly affected by the verbal interaction that takes place between the teacher and the student.

It is also evident that the individual reading conference is a highly personal matter involving the teacher and the pupil. Because of the two personalities involved, which in essence determine the nature of each conference, no one can or should prescribe exactly what the teacher should do or say. The teacher, as the constant factor in each conference, should be instrumental in developing the conference into a successful activity. The teacher's ability to ask questions and to respond instantly and intelligently to the child's reactions with more questions is important. The teacher's task is to assess the reader rather than the material which has been read. The child, as the independent variable, makes each conference a unique and highly individual teaching-learning situation. The child's reactions and responses to the materials which have been read become the focal point of the individual reading conference.

Some generalized patterns which typically occur during the individual reading conference were evident. The teacher usually attempts to gain information concerning the child's knowledge of the content of the material read. An attempt is usually made to develop deeper meanings, to provide a time for intimate sharing which may also prove to be an aid for guidance and counseling purposes, and to encourage vocabulary growth. The child's independent use of word attack skills is usually noted. Records are usually kept for future use. In addition, an individual diagnosis may be made, a specific skill may be developed, plans may be made for individual or group follow-up, and provision may be made for oral language expression.

CHAPTER III

DESIGN OF THE STUDY

Population Description

Fourteen public school teachers enrolled in the master's degree program of the New School of Behavioral Studies in Education were selected as the research population for this study. The fourteen subjects were divided into two groups, an experimental group and a control group. The seven subjects in the experimental group were currently teaching in the intermediate grades of the public schools in Minot, North Dakota. In the control group, three of the subjects were currently teaching in the intermediate grades in the public schools in Grand Forks, North Dakota, one of the subjects was currently teaching in the intermediate grades in the public school in Lakota, North Dakota, one of the subjects was currently teaching in the intermediate grades in a public school in Bismarck, North Dakota, and two were currently teaching in the intermediate grades in the public schools in Mandan, North Dakota.

The subjects were matched, as shown in Appendix C, according to grade level taught, sex, and years of teaching experience. All of the subjects involved in the study taught reading in their respective grades and used individual reading conferences as a part of their instructional reading program.

Data Collection Procedures

During the last two weeks in September this investigator visited the classroom of each of the teachers involved in the study. The visit had been prearranged so it would be at a time when the teacher was holding individual reading conferences. At this time an audio tape recorder was located where the individual reading conferences were held. The investigator left the room while approximately twenty minutes of individual reading conferences were recorded. The same procedure was followed four months later to obtain the post set of audio tape recordings for the purposes of comparison. A follow-up taping was obtained from the experimental group three months after the post taping. The purpose of this taping was to determine whether the changes obtained during the treatment period were maintained.

The data were randomly analyzed by doctoral students trained in the techniques of interaction analysis. The doctoral students were all enrolled in the New School of Behavioral Studies in Education located at the University of North Dakota in Grand Forks. The doctoral students were trained in interaction analysis and had reached a Scott (1955) reliability index of .89. Scanner sheets were used to code the data at three-second intervals; these sheets were placed in the optical scanner at the University of North Dakota Computer Center to reproduce the coding on punched cards. The punched cards were then sorted and run through the Model 360 IBM Computer for a reproduction of the ten-row by ten-column matrices for future analysis. Separate tallies were kept to provide information concerning

the frequency with which the individual reading conferences were used to plan for individual or group follow-up activities.

Description of Treatment

The treatment period between the first and second set of tapings consisted of four months. During the treatment period the experimental group participated in an in-service program conducted by the investigator. Four group meetings of one hour each were held at two week intervals. The four group meetings were followed by individual sessions of one hour each. The individual sessions were followed by a fifth group meeting of one hour.

During the first group meeting the subjects were informed that during the next few months they would be exposed to the Flanders System of Interaction Analysis and to what various authorities in the field of reading had written about the individual reading conference. The general procedure to be followed for the meetings during the subsequent weeks was explained and the information presented in Appendix A was distributed to each of the subjects and briefly discussed. The subjects were asked to learn the ten coding categories for the Flanders System of Interaction Analysis before the next meeting.

A discussion of the ten coding categories for the Flanders System of Interaction Analysis was held at the beginning of the second group meeting. When the subjects indicated that they understood the distinguishing characteristics of each category a five-minute segment of an audio tape recording of an individual reading conference volunteered by one of the subjects was played. A discussion was then held

concerning the categorical placement of the various verbal interactions that had been heard. This was followed by an attempt to individually code approximately two minutes of the recording. This was again followed by a discussion concerning the categorical placement of the verbal interactions. The subjects were encouraged to consider the categories in which they would place some of the verbal interactions which would occur in their classrooms during the following two weeks.

The third group meeting began with a review of the ten coding categories and their accompanying ground rules as listed in the material in Appendix A. An attempt was then made to code the entire five-minute segment of tape which consisted of one complete individual reading conference which had been heard at the previous group meeting. This was followed with a discussion of the categories used in the coding process. Parts of the tape were replayed to verify specific category choices.

The material presented in Appendix B was then distributed to the subjects along with the request that they read the information before the next group meeting and list what they considered to be the most important points to include or consider in an individual reading conference.

Another audio tape recording of a five-minute individual reading conference volunteered by one of the subjects was played at the fourth group meeting and coded according to the Flanders System of Interaction Analysis. After a brief discussion of the coding, the remainder of the meeting was devoted to a discussion of the most important points to include or consider in an individual reading

conference as listed by the subjects. The material presented in Appendix B was also discussed.

Individual meetings were then held over a two week period with each of the subjects in the experimental group. One meeting was held with each subject. During this meeting an audio tape recording of one of the subject's individual reading conferences was played and coded according to the Flanders System of Interaction Analysis. A matrix was made from this tabulation and analyzed according to the criteria presented in Appendix A.

A fifth group meeting was held approximately two weeks after the last individual meeting for the purpose of reviewing and summarizing what had taken place at the previous meetings and to re-emphasize the information presented in Appendix B.

Flanders System of Interaction Analysis

The Flanders System of Interaction Analysis was originally used as a research tool and continues to serve this function. As such, it is employed to collect data regarding the verbal interaction that occurs between the teacher and the student. The categories for recording this verbal interaction and the descriptions of these categories are defined as follows by Amidon and Flanders (1967):

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

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

Category 2, Praise or Encouragement. Included in this category are jokes that release tension, but not those that threaten students or are made at the expense of individual students. Often praise is a single word: "Good," "Fine," or "Right." Sometimes the teacher simply says, "I like what you are doing." Encouragement is slightly different and includes statements such as, "Continue," "Go ahead with what you are saying," "Uh huh; go on; tell us more about your idea." Praise may also be given in the form of repetition of a student's answer when this repetition communicates to the child that his answer is correct.

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

Statements belonging in Category 3 can be identified by asking the question, "Is the idea that the teacher is now stating the

student's or is it the teacher's?" If it is the student's idea, then this category is used; if it is the teacher's idea, another category must be employed.

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

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

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

Whenever the teacher is explaining, discussing, giving opinion, or giving facts or information, Category 5 is used. When the teacher is orienting the class to a topic or explaining the procedure that the class will follow, this is also classified in Category 5. These statements are often referred to as procedural 5's. Rhetorical questions are also included in this Category.

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

Category 7, Criticizing or Justifying Authority. A statement of criticism is one that is designed to change student behavior from non-acceptable to acceptable. The teacher is saying, in effect,

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

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

There are three additional categories:

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

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

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

The procedure for categorizing teacher-pupil interaction was as follows:

Every three seconds or with every change of category the observer recorded the number of the category he had just observed. These categories were entered in a ten-row by ten-column matrix for future analysis. Figure 2 (page 12) illustrates the areas of the matrix to be analyzed.

Statistical Treatment of the Data

The raw data collected in this study consisted of tallies or frequencies of responses in particular categories. According to Downie and Heath (1965) the chi-square test of significance is used with data that are expressed in frequencies or data that are in terms of percentages or proportions that can be reduced to frequencies. No assumptions are necessary about the shape of the distribution and two or more differences may be evaluated at the same time using this statistic. The chi-square test of significance is a two-tailed test used in testing null hypotheses of no

significant differences between or among the responses of two or more groups.

In an effort to be consistent and because of the applicability of the chi-square test to frequency data, the chi-square test of significance was used throughout this study.

CHAPTER IV

ANALYSIS AND RESULTS

The findings of this study are presented in the order of the eight research questions stated in Chapter I. These questions were recast in the form of null hypotheses for statistical testing. The data used to test each stated hypothesis are followed by a summary statement of the results. Tables for summarizing and clarifying data are included in the discussion.

Hypothesis 1. There will be no significant difference for either the experimental or the control group in the following areas: (a) student talk, (b) teacher talk.

To test the hypothesis of no significant difference in the area of student talk a chi-square value was computed for each group for each of categories 8 and 9 as derived from the pre and post tapes. Tables 1 and 2 indicate the chi-square values and the direction of movement if the change is statistically significant.

The experimental group made a significant change in the desired direction indicating that the students of the teachers in the experimental group made fewer teacher-directed responses at the end of the treatment period. The control group made a significant change in the opposite direction indicating that the students of the teachers in the control group made more teacher-directed responses at the end of the same period. The null hypothesis was rejected.

TABLE 1

CHI-SQUARE VALUES FOR THE EXPERIMENTAL GROUP AND CONTROL GROUP IN CATEGORIES MEASURING TEACHER-DIRECTED STUDENT TALK

Group	Total Number of Pretape Responses	Total Number of Posttape Responses	Chi-square	Significant Change in Desired Direction
Experimental	510	337	35.34***	Yes
Control	406	487	7.35**	No

**Significant at the .01 level.
***Significant at the .001 level.

TABLE 2

CHI-SQUARE VALUES FOR THE EXPERIMENTAL GROUP AND CONTROL GROUP IN CATEGORIES MEASURING STUDENT-INITIATED TALK

Group	Total Number of Pretape Responses	Total Number of Posttape Responses	Chi-square	Significant Change in Desired Direction
Experimental	447	638	33.62***	Yes
Control	467	466	0.00	

***Significant at the .001 level.

The experimental group made a significant change in the desired direction indicating that the students of the teachers in the experimental group made more student-initiated responses at the end of the treatment period. The control group showed no significant change indicating that they made approximately the same number of student-

initiated responses at the end of the same period. The null hypothesis was rejected.

To further test the hypothesis a chi-square value was computed for the experimental group for each of categories 8 and 9 as derived from the posttape and the follow-up tape. Tables 3 and 4 indicate the chi-square values obtained.

TABLE 3

CHI-SQUARE VALUE FOR THE EXPERIMENTAL GROUP FOLLOW-UP IN CATEGORY MEASURING TEACHER-DIRECTED STUDENT TALK

Total Number of Posttape Responses	Total Number of Follow-up Responses	Chi-square
337	363	.97

The chi-square value for the experimental group in Table 3 shows that no significant change occurred from the post taping to the follow-up taping, indicating that the desirable change obtained during the treatment period was maintained.

TABLE 4

CHI-SQUARE VALUE FOR THE EXPERIMENTAL GROUP FOLLOW-UP IN CATEGORY MEASURING STUDENT-INITIATED TALK

Total Number of Posttape Responses	Total Number of Follow-up Responses	Chi-square
638	665	.56

The chi-square value for the experimental group in Table 4 shows that no significant change occurred from the post taping to the follow-up taping, indicating that the desirable change obtained during the treatment period was maintained.

To test the hypothesis of no significant difference in the area of teacher talk a chi-square value was computed for each group for the total number of tallies in categories 1, 2, 3, 4, 5, 6, and 7 as derived from the pre and post tapes. Table 5 presents the values obtained.

TABLE 5

CHI-SQUARE VALUES FOR THE EXPERIMENTAL GROUP AND CONTROL GROUP IN CATEGORIES MEASURING TEACHER TALK

Group	Total Number of Pretape Responses	Total Number of Posttape Responses	Chi-square	Significant Change in Desired Direction
Experimental	973	1028	1.51	
Control	1063	1001	1.86	

The small chi-square values for both the experimental and the control group show that no significant change was obtained for either group indicating that the amount of teacher talk was approximately the same at the end of the treatment period as it had been prior to it. The null hypothesis was retained.

To further test the hypothesis a chi-square value was computed for the experimental group for the totals in categories 1, 2,

3, 4, 5, 6, and 7 as derived from the posttape and the follow-up tape. Table 6 presents the results.

TABLE 6

CHI-SQUARE VALUE FOR THE EXPERIMENTAL GROUP FOLLOW-UP IN CATEGORIES MEASURING TEACHER TALK

Total Number of Posttape Responses	Total Number of Follow-up Responses	Chi-square
1028	967	1.87

The chi-square value for the experimental group in Table 6 shows that no significant change occurred from the post taping to the follow-up taping. Thus, the null hypothesis was maintained.

Hypothesis 2. There will be no significant difference for either the experimental group or the control group in the following areas: (a) the amount of indirect teacher influence, (b) the amount of direct teacher influence.

Categories 1, 2, 3, and 4, as derived from the pre and post tapes for each group, were combined to determine the amount of indirect teacher influence. Table 7 indicates the chi-square values and the direction of movement if the change was statistically significant.

The experimental group made a significant change in a positive direction indicating that the teachers in the experimental group made significantly more use of indirect influence at the end of the treatment period. No significant change was noted in the amount of indirect influence used by the control group. The null hypothesis was rejected.

TABLE 7

CHI-SQUARE VALUES FOR THE EXPERIMENTAL AND CONTROL GROUPS IN CATEGORIES MEASURING INDIRECT TEACHER INFLUENCE

Group	Total Number of Pretape Responses	Total Number of Posttape Responses	Chi-square	Significant Change in Desired Direction
Experimental	608	731	11.30***	Yes
Control	722	701	.31	

***Significant at the .001 level

To further test the hypothesis a chi-square value was computed for the experimental group for the totals in categories 1, 2, 3, and 4 as derived from the posttape and follow-up tape. Table 8 presents the results.

TABLE 8

CHI-SQUARE VALUE FOR THE EXPERIMENTAL GROUP FOLLOW-UP IN CATEGORIES MEASURING INDIRECT TEACHER INFLUENCE

Total Number of Posttape Responses	Total Number of Follow-up Responses	Chi-square
731	718	.12

The chi-square value for the experimental group in Table 8 shows that no significant change was evident from an analysis of the posttape and the follow-up tape in the area of indirect teacher influence, indicating that the positive change obtained during the treatment was maintained.

To further analyze the data a chi-square value was computed for the revised indirect teacher influence for each group which excludes the category of questions but includes the totals of categories 1, 2, and 3 as derived from the pre and post tapes. Table 9 indicates the chi-square values and the direction of change if the change was statistically significant.

TABLE 9

CHI-SQUARE VALUES FOR THE EXPERIMENTAL AND CONTROL GROUPS IN CATEGORIES MEASURING REVISED INDIRECT TEACHER INFLUENCE

Group	Total Number of Pretape Responses	Total Number of Posttape Responses	Chi-square	Significant Change in Desired Direction
Experimental	177	254	13.76***	Yes
Control	195	116	20.13***	No

***Significant at the .001 level.

The chi-square value for the experimental group in Table 9 shows that a significant change was made in a positive direction indicating that significantly more indirect influence as measured through teacher acceptance of student feelings, praise and encouragement, and acceptance of student ideas was used by the experimental group of teachers at the end of the treatment period. A significant change in the opposite direction was made by the control group indicating that they used significantly less indirect influence as measured through categories 1, 2, and 3 after the same period of time. The null hypothesis was rejected.

To further test the hypothesis a chi-square value was computed for the experimental group for the totals in categories 1, 2, and 3 as derived from the posttape and the follow-up tape. Table 10 presents the results.

TABLE 10

CHI-SQUARE VALUE FOR THE EXPERIMENTAL GROUP FOLLOW-UP IN CATEGORIES MEASURING REVISED INDIRECT TEACHER INFLUENCE

Total Number of Posttape Responses	Total Number of Pretape Responses	Chi-square
254	258	.03

The chi-square value for the experimental group in Table 10 shows that no significant change occurred from the post taping to the follow-up taping, indicating that the desirable change obtained during the treatment period was maintained.

To test the hypothesis concerning direct teacher influence a chi-square value was computed for each group from the totals in the categories of lecturing, direction giving, and criticism as derived from the pre and post tapes. Table 11 present the chi-square values and direction of movement if the change was statistically significant.

The chi-square value for the experimental group in Table 11 shows that a significant change was made in the desired direction indicating that the experimental group of teachers used significantly less direct influence at the end of the treatment period.

The control group had moved in the same direction during the same period of time but the change was not statistically significant. The null hypothesis was rejected.

TABLE 11

CHI-SQUARE VALUES FOR THE EXPERIMENTAL GROUP AND CONTROL GROUP IN CATEGORIES MEASURING DIRECT TEACHER INFLUENCE

Group	Total Number of Pretape Responses	Total Number of Posttape Responses	Chi-square	Significant Change in Desired Direction
Experimental	365	297	6.98**	Yes
Control	341	300	2.62	

**Significant at the .01 level.

To further test the hypothesis a chi-square value was computed for the experimental group for the totals in categories 5, 6, and 7 as derived from the posttape and the follow-up tape. Table 12 presents the results.

TABLE 12

CHI-SQUARE VALUE FOR THE EXPERIMENTAL GROUP FOLLOW-UP IN CATEGORIES MEASURING DIRECT TEACHER INFLUENCE

Total Number of Posttape Responses	Total Number of Follow-up Responses	Chi-square
297	249	4.22*

*Significant at the .05 level.

The chi-square value for the experimental group in Table 12 shows that a further change occurred in the desired direction from the post taping to the follow-up taping. Thus, the rejection of the null hypothesis was maintained.

To further analyze the data a chi-square value was computed for the revised direct teacher influence for each group which excludes category 5 but includes categories 6 and 7 as derived from the pre and post tapes. Table 13 presents the chi-square values.

TABLE 13

CHI-SQUARE VALUES FOR THE EXPERIMENTAL GROUP AND CONTROL GROUP IN CATEGORIES MEASURING REVISED DIRECT TEACHER INFLUENCE

Group	Total Number of Pretape Responses	Total Number of Posttape Responses	Chi-square	Significant Change in Desired Direction
Experimental	97	73	2.64	
Control	101	80	2.44	

The chi-square values for both the experimental group and the control group show that no significant change was obtained for either group indicating that the amount of direct teacher influence as measured with categories 6 and 7 did not change significantly from the pre to the post tapes. It can be noted, however, that both groups made a noticeable change in the desired direction. The null hypothesis was retained.

To further test the hypothesis a chi-square value was computed for the experimental group for the totals in categories 6

and 7 as derived from the posttape and the follow-up tape. Table 14 presents the results.

TABLE 14

CHI-SQUARE VALUE FOR THE EXPERIMENTAL GROUP FOLLOW-UP IN CATEGORIES MEASURING REVISED DIRECT TEACHER INFLUENCE

Total Number of Posttape Responses	Total Number of Follow-up Responses	Chi-square
73	81	.42

The chi-square value for the experimental group in Table 14 shows that no significant change occurred from the post taping to the follow-up taping. Therefore, the null hypothesis was maintained.

Hypothesis 3. There will be no significant difference for either the experimental group or the control group in the following areas: (a) the teacher's acceptance of the student's feelings, (b) the teacher's acceptance of the student's ideas.

Category 1 on the Flanders Scale is used to record observations of the teacher's acceptance of the student's feelings. To test the hypothesis of no significant difference in this area a chi-square value was computed for each group for category 1 as derived from the pre and post tapes. Table 15 presents the results and shows the direction of movement if the change is statistically significant.

TABLE 15

CHI-SQUARE VALUES FOR THE EXPERIMENTAL GROUP AND CONTROL GROUP IN CATEGORIES MEASURING ACCEPTANCE OF STUDENT'S FEELINGS

Group	Total Number of Pretape Responses	Total Number of Posttape Responses	Chi-square	Significant Change in Desired Direction
Experimental	4	22	12.46***	Yes
Control	5	9	1.14	

***Significant at the .001 level.

The results in Table 15 show that the experimental group made a significant change in the desired direction indicating that the teachers in the experimental group were significantly more accepting of the student's feelings at the end of the treatment period than they had been prior to it. The control group made a non-significant change in the desired direction. The null hypothesis was rejected.

To further test the hypothesis a chi-square value was computed for the experimental group for category 1 as derived from the posttape and the follow-up tape. Table 16 presents the results.

TABLE 16

CHI-SQUARE VALUE FOR THE EXPERIMENTAL GROUP FOLLOW-UP IN CATEGORY MEASURING ACCEPTANCE OF STUDENT'S FEELINGS

Total Number of Posttape Responses	Total Number of Follow-up Responses	Chi-square
22	19	.22

The chi-square value for the experimental group in Table 16 shows that no significant change occurred from the post taping to the follow-up taping indicating that the desirable change obtained during the treatment period was maintained.

Category 3 on the Flanders Scale is used to record observations of the teacher's acceptance of the student's ideas. To test the hypothesis of no significant association in this area a chi-square value was computed for each group for category 3 as derived from the pre and post tapes. The results are presented in Table 17.

TABLE 17

CHI-SQUARE VALUES FOR THE EXPERIMENTAL AND CONTROL GROUPS IN CATEGORIES MEASURING ACCEPTANCE OF STUDENT'S IDEAS

Group	Total Number of Pretape Responses	Total Number of Posttape Responses	Chi-square	Significant Change in Desired Direction
Experimental	15	59	26.16***	Yes
Control	17	6	5.26*	No

*Significant at the .05 level.
***Significant at the .001 level.

The experimental group made a significant change at the .001 level in the desired direction indicating that they were significantly more accepting of the student's ideas at the end of the treatment period. The control group made a significant change in the opposite direction at the .05 level indicating that they had shown

less acceptance of the student's ideas at the end of the same period. The null hypothesis was rejected.

To further test the hypothesis a chi-square value was computed for the experimental group for category 3 as derived from the post taping and the follow-up taping. Table 18 presents the results.

TABLE 18

CHI-SQUARE VALUE FOR THE EXPERIMENTAL GROUP FOLLOW-UP IN CATEGORY MEASURING ACCEPTANCE OF STUDENT'S IDEAS

Total Number of Posttape Responses	Total Number of Follow-up Responses	Chi-square
59	75	1.91

The chi-square value for the experimental group in Table 18 shows that no significant change occurred from the post taping to the follow-up taping indicating that the desirable change obtained during the treatment period was maintained.

Hypothesis 4. There will be no significant difference for either the experimental group or the control group in the use of praise and encouragement.

Category 2 on the Flanders Scale is used to record the teacher's use of praise and encouragement. To test the hypothesis of no significant difference in this area a chi-square value was computed for each group in category 2 as derived from the pre and post tapes. The results and the direction of change, if the change is statistically significant, are presented in Table 19.

TABLE 19

CHI-SQUARE VALUES FOR THE EXPERIMENTAL GROUP AND CONTROL GROUP IN CATEGORIES MEASURING PRAISE AND ENCOURAGEMENT

Group	Total Number of Pretape Responses	Total Number of Posttape Responses	Chi-square	Significant Change in Desired Direction
Experimental	158	173	.68	
Control	173	101	18.92***	No

***Significant at the .001 level.

The chi-square value for the experimental group in Table 19 shows that no significant change occurred from the pretape to the posttape indicating that the teachers in the experimental group used approximately the same amount of praise and encouragement at the end of the treatment period as they used prior to it. The control group made a significant change in a negative direction indicating that significantly less use of praise and encouragement was observed at the end of the same period. The null hypothesis was rejected.

To further test the hypothesis a chi-square value was computed for the experimental group for category 2 as derived from the posttape and the follow-up tape. Table 20 presents the results.

The chi-square value for the experimental group in Table 20 shows that no significant change occurred from the post taping to the follow-up taping.

TABLE 20

CHI-SQUARE VALUE FOR THE EXPERIMENTAL GROUP FOLLOW-UP IN CATEGORY MEASURING PRAISE AND ENCOURAGEMENT

Total Number of Posttape Responses	Total Number of Follow-up Responses	Chi-square
173	164	.24

Hypothesis 5. There will be no significant difference for either the experimental or the control group in the content area.

To test this hypothesis the content cross area of each matrix, as derived from the pre and post tapes, was analyzed to determine the emphasis placed upon content of the material read and a chi-square value computed for each group. Table 21 indicates the chi-square values and the direction of change if the change was statistically significant.

TABLE 21

CHI-SQUARE VALUES FOR THE EXPERIMENTAL GROUP AND THE CONTROL GROUP IN THE CONTENT CROSS AREA

Group	Total Number of Pretape Responses	Total Number of Posttape Responses	Chi-square	Significant Change in Desired Direction
Experimental	1018	1065	1.06	
Control	1124	1253	7.00**	No

**Significant at the .01 level.

The results in Table 21 show that the experimental group placed approximately the same amount of emphasis upon the content of the material read at the end of the treatment period as they had prior to it. The control group of teachers placed significantly more emphasis upon content at the end of the same period. The null hypothesis was rejected.

To further test the hypothesis a chi-square value was computed for the experimental group for the area of the content cross as derived from the posttape and the follow-up tape. Table 22 presents the results.

TABLE 22

CHI-SQUARE VALUE FOR THE EXPERIMENTAL GROUP FOLLOW-UP IN THE CONTENT CROSS AREA

Total Number of Posttape Responses	Total Number of Follow-up Responses	Chi-square
1065	975	3.87*

*Significant at the .05 level.

The chi-square value for the experimental group in Table 22 shows that a significant change occurred from the post taping to the follow-up taping indicating that less emphasis was placed upon content at the time of the follow-up taping.

Hypothesis 6. There will be no significant difference for either the experimental or the control group in the areas which may serve guidance and counseling purposes.

To test this hypothesis a chi-square value was computed for each group for the total number of tallies in categories 1, 3, and 9 as derived from the pre and post tapes. These categories reflect teacher acceptance of student feelings and ideas as well as student-initiated talk. Table 23 presents the values obtained and the direction of change if the change was statistically significant.

TABLE 23

CHI-SQUARE VALUES FOR THE EXPERIMENTAL GROUP AND CONTROL GROUP IN CATEGORIES MEASURING ACCEPTANCE AND STUDENT-INITIATED TALK

Group	Total Number of Pretape Responses	Total Number of Posttape Responses	Chi-square	Significant Change in Desired Direction
Experimental	466	719	54.02***	Yes
Control	489	481	.07	

***Significant at the .001 level.

The experimental group made a significant change in a positive direction indicating that they made significantly more use of the areas which may serve guidance and counseling purposes at the end of the treatment period than they did prior to it. The control group showed no significant change in the total combined use of categories 1, 3, and 9 during the same period. The null hypothesis was rejected.

To further test the hypothesis a chi-square value was computed for the experimental group for the combined totals of categories 1, 3, and 9 as derived from the posttapes and the follow-up tapes. The results are presented in Table 24.

TABLE 24

CHI-SQUARE VALUE FOR THE EXPERIMENTAL GROUP FOLLOW-UP IN CATEGORIES MEASURING ACCEPTANCE AND STUDENT-INITIATED TALK

Total Number of Posttape Responses	Total Number of Follow-up Responses	Chi-square
719	759	1.08

The chi-square value for the experimental group in Table 24 shows that no significant change occurred from the posttape to the follow-up tape in the areas of acceptance and student initiated talk indicating that the desirable change obtained during the treatment period was maintained.

Hypothesis 7. There will be no significant difference for either the experimental or the control group in the attention given to planning for individual or group follow-up activities.

Separate tallies were recorded to determine the amount of time spent in planning during the individual reading conference. Chi-square values were computed for this frequency data for both groups as derived from the pre and post tapes. Table 25 indicates the chi-square values and the direction of movement if the change was statistically significant.

The experimental group made a significant change in a positive direction indicating that significantly more attention was given to planning at the end of the treatment period. No significant change was noted in the amount of attention given to planning by the control group. The null hypothesis was rejected.

TABLE 25

CHI-SQUARE VALUES FOR THE EXPERIMENTAL GROUP AND CONTROL GROUP MEASURING ATTENTION GIVEN TO PLANNING

Group	Total Number of Pretape Responses	Total Number of Posttape Responses	Chi-square	Significant Change in Desired Direction
Experimental	62	133	25.85***	Yes
Control	58	64	.30	

***Significant at the .001 level.

To further test the hypothesis a chi-square value was computed for the experimental group for the planning data derived from the post-tapes and the follow-up tapes. The data is presented in Table 26.

TABLE 26

CHI-SQUARE VALUE FOR THE EXPERIMENTAL GROUP FOLLOW-UP MEASURING ATTENTION GIVEN TO PLANNING

Total Number of Posttape Responses	Total Number of Follow-up Responses	Chi-square
133	161	2.67

The chi-square value for the experimental group in Table 26 shows that no significant change occurred from the post taping to the follow-up taping, indicating that the desirable change obtained during the treatment period was maintained.

Hypothesis 8. There will be no significant difference for either the experimental group or the control group in the total area of student talk.

Categories 8 and 9 are combined in the Flanders Scale to obtain the total amount of student talk. A chi-square value was computed for each group for the total student talk area as derived from the pre and post tapes. Table 27 presents the data.

TABLE 27

CHI-SQUARE VALUES FOR THE EXPERIMENTAL GROUP AND CONTROL GROUP IN CATEGORIES MEASURING STUDENT TALK

Group	Total Number of Pretape Responses	Total Number of Posttape Responses	Chi-square	Significant Change in Desired Direction
Experimental	957	975	.17	
Control	873	953	3.50	

No significant change was obtained for either group in the area of total student talk; therefore, the null hypothesis was retained.

To further test the hypothesis a chi-square value was computed for the experimental group for categories 8 and 9 as derived from the posttapes and the follow-up tapes. Table 28 presents the results.

TABLE 28

CHI-SQUARE VALUE FOR THE EXPERIMENTAL GROUP FOLLOW-UP IN CATEGORIES MEASURING STUDENT TALK

Total Number of Posttape Responses	Total Number of Follow-up Responses	Chi-square
975	1028	1.40

The chi-square value for the experimental group in Table 28 shows that no significant change occurred from the post taping to the follow-up taping in the area of total student talk. Thus, the null hypothesis was maintained.

Summary of Flanders Categories. A summary of the data obtained for the ten Flanders categories from the pre and post tapes, along with the chi-square values and the significant direction of change, is presented in Table 29 for the experimental group and Table 30 for the control group.

The data in Table 29 showed that the verbal behavior patterns of the experimental group changed from pretape to posttape analysis in a positive direction in categories 1, 3, 5, 8, 9, and 10. These changes imply that the experimental group reflected more feeling and acceptance and made less use of lecture. The students made more self-initiated responses and fewer responses to teacher control.

The data in Table 30 showed that the control group changed in a negative direction from the pretape to the posttape analysis in categories 2, 3, and 8, indicating that its members reflected less

TABLE 29

CHI-SQUARE VALUES FOR THE EXPERIMENTAL GROUP BASED ON TOTAL MATRIX TALLIES

Categories	Total Number of Pretape Responses	Total Number of Posttape Responses	Chi-square	Significant Change in Desired Direction
1	4	22	12.46***	Yes
2	158	173	.68	
3	15	59	26.16***	Yes
4	431	477	2.34	
5	271	225	4.46*	Yes
6	89	68	2.81	
7	5	5	0.00	
8	510	337	35.34***	Yes
9	447	638	33.62***	Yes
10	132	82	11.68***	

*Significant at the .05 level.
***Significant at the .001 level.

TABLE 30

CHI-SQUARE VALUES FOR THE CONTROL GROUP BASED ON TOTAL MATRIX TALLIES

Categories	Total Number of Pretape Responses	Total Number of Posttape Responses	Chi-square	Significant Change in Desired Direction
1	5	9	1.14	
2	173	101	18.92***	No
3	17	6	5.62*	No
4	527	585	3.03	
5	240	220	.87	
6	86	71	1.43	
7	15	9	1.50	
8	486	487	7.35**	No
9	467	466	0.00	
10	132	95	6.04*	

*Significant at the .05 level.
**Significant at the .01 level.
***Significant at the .001 level.

praise and encouragement, less acceptance of student ideas, and derived more student talk in direct response to the teacher's control.

No direction was determined for Category 10, silence, because it is difficult to ascertain from these results if silence means student confusion, resistance, or introspection. However, it can be noted that this category decreased significantly for both groups.

CHAPTER V

SUMMARY, DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Summary of Problem and Procedure

The purpose of this study was to determine the effect of in-service training in individual reading conferences and interaction analysis on the individual reading conferences conducted by elementary school teachers in the fourth, fifth, and sixth grades. Previous research had indicated that the training of teachers in interaction analysis helped teachers to become more aware of the verbal interaction between teachers and pupils. A review of the literature indicated that the training of teachers in verbal interaction analysis and individual reading conferences for the purpose of determing the effect upon the individual reading conference had not been studied in previous research.

The eight specific research questions presented for investigation were as follows:

1. Does training in the use of interaction analysis and the individual reading conference significantly improve the percentage of student talk as compared to teacher talk?
2. Does training in the use of interaction analysis and the individual reading conference significantly affect the amount of indirect and direct teacher influence?

3. Does training in the use of interaction analysis and the individual reading conference significantly increase the teacher's acceptance of the student's feelings and ideas?
4. Does training in the use of interaction analysis and the individual reading conference significantly increase the teacher's use of praise and encouragement?
5. Does training in the use of interaction analysis and the individual reading conference significantly increase the teacher's use of the individual reading conference as a time to gain information concerning the student's knowledge of the content of the material read?
6. Does training in the use of interaction analysis and the individual reading conference significantly increase the use of the individual reading conference as an intimate sharing period which may aid guidance and counseling purposes?
7. Does training in the use of interaction analysis and the individual reading conference significantly increase the attention given during the individual reading conference to planning for individual or group follow-up activities?
8. Does training in the use of interaction analysis and the individual reading conference significantly increase the use of the individual reading conference as a means of providing for oral language expression?

The subjects used in the study were fourteen public school teachers enrolled in the master's degree program of the New School of Behavioral Studies in Education at the University of North Dakota in

Grand Forks, North Dakota. The fourteen subjects were divided into two groups, an experimental group and a control group. The subjects were matched according to grade level taught, sex, and years of teaching experience.

The experimental group was treated through use of an in-service program conducted by this investigator. The program consisted of five group meetings and one individual meeting with each subject. Each meeting was one hour in length. During the group meetings the subjects were given training in the Flanders System of Interaction Analysis and the individual reading conference as indicated by the material in the Appendix. The individual meeting with each subject was for the purpose of providing feedback through an examination of an interaction analysis matrix obtained from a sample of the individual's conference tape.

Both groups were taped prior to the treatment period and again following it. A follow-up tape was obtained from the experimental group three months after the post taping. The tapes were analyzed by doctoral students trained in interaction analysis. The data were recorded on scanner sheets and subsequently reproduced into ten-row by ten-column matrices for future analysis.

The statistical procedure employed in the analysis of the frequency data was chi-square.

Summary of Findings

1. Training teachers in the use of interaction analysis and the individual reading conference resulted in significantly less teacher-directed student talk and significantly more student-initiated talk.

2. No significant difference was found in the amount of teacher talk as a result of training in interaction analysis and the individual reading conference.

3. Teachers trained in the use of interaction analysis and the individual reading conference used significantly more indirect influence and significantly less direct influence.

4. Teachers trained in the use of interaction analysis and the individual reading conference became significantly more accepting of the student's feelings and ideas.

5. No significant difference was found in the teacher's use of praise and encouragement as a result of training in interaction analysis and the individual reading conference.

6. Training teachers in the use of interaction analysis and the individual reading conference resulted in significantly less emphasis being placed upon the content of the material read.

7. Training teachers in the use of interaction analysis and the individual reading conference resulted in significantly more use of the individual reading conference as an intimate sharing period which may serve guidance and counseling purposes.

8. The amount of attention given during the individual reading conference to planning for follow-up activities was significantly increased as a result of training in interaction analysis and the individual reading conference.

9. No significant difference was found in the amount of student oral language expression as a result of training in interaction analysis and the individual reading conference.

Discussion and Conclusions

The findings in the area of student talk indicated that the training of teachers in verbal interaction analysis and the individual reading conference appeared to be helpful. The experimental group of teachers elicited significantly fewer teacher-directed student responses and significantly more student-initiated responses after the treatment. These changes were maintained during a three month period following the treatment. The control group of teachers elicited significantly more teacher-directed student responses while no measurable change was noted in the number of student-initiated responses.

No significant change was noted for either the experimental or the control group in the area of total teacher talk. The follow-up tape obtained from the experimental group reinforced this finding. Apparently training in verbal interaction analysis and the individual reading conference did not affect the total amount of time spent in teacher talk.

However, the type of teacher influence used was significantly affected by the treatment. The experimental group used significantly more indirect influence after the treatment period and tended to maintain this use as indicated by the follow-up tape. The control group did not appear to change significantly in the use of indirect influence although an analysis of the revised indirect teacher influence tended to intensify the differences between the two groups. The experimental group also used significantly less direct influence at the end of the treatment period. The follow-up tape showed

that a further significant decrease in the use of direct influence had occurred which may indicate that the effect of the treatment had not only persisted but had continued to operate. The control group had also moved in the desired direction but the change was not statistically significant. In the revised direct teacher influence categories both groups made a noticeable movement in the desired direction but neither change was statistically significant. These effects would seem to be especially important since Soar's (1966) study found that indirect teaching produced greater growth in reading comprehension in elementary school pupils than did direct teaching and that students who were taught by teachers using indirect influence made greater progress in reading comprehension during summer vacation than students who had been taught by teachers using direct influence. Furst (1965) also found that above-average student achievement was positively related to indirect teacher influence.

The areas of teacher acceptance of student's feelings and ideas showed significant positive changes for the experimental group following the treatment. The follow-up tape indicated that these changes persisted beyond the treatment period. The control group showed no significant change in the teacher's acceptance of the student's feelings but showed a significant decrease in the teacher's acceptance of the student's ideas. The importance of these effects were pointed out by Amidon and Giammatteo (1957) who found that superior teachers used more acceptance of student's feelings and ideas than non-superior teachers. These findings also concur with Furst (1965) who reported that student teachers trained in interaction analysis demonstrated greater use of accepting teaching behaviors.

Although the experimental group showed no significant change in the use of praise and encouragement as a result of the treatment, the control group showed a significant negative change in this area. This may indicate that the treatment tended to cause the experimental group to maintain a relatively uniform level of use of praise and encouragement rather than to follow a tendency to decrease usage in this area as the year progressed and they became more familiar with the students. It should also be noted that this type of indirect influence was reinforced in the experimental group by the significant positive changes in the categories measuring teacher acceptance of student feelings and ideas.

The emphasis placed upon the content of the material read did not change significantly for the experimental group from the pre to the post tape but the follow-up tape showed that significantly less emphasis was placed upon content at that time. This would be in keeping with the suggestion that the emphasis should be upon the student rather than upon the content of the material read. The control group placed significantly more emphasis upon the content of the material read at the time of the post taping. This may have indicated a tendency to routinize the conferences as the year progressed.

Several writers, as indicated in the review of the literature, have stressed the use of the individual reading conference as a time to serve guidance and counseling purposes. The experimental group made a significant positive change in this area. The follow-up tape indicated that this change was maintained. The treatment apparently produced the desired effect. The control group did not change significantly in this area.

Nearly all of the authorities in the field of reading who have written about the individual reading conference have stressed the importance of planning during the conference for follow-up activities. The treatment apparently resulted in a significant positive change for the experimental group in this area. This change was maintained with a further notable increase in planning tallies observed on the follow-up tape. No significant change was noted for the control group in the amount of time spent in planning during the conference.

The individual reading conference should provide an opportunity for the student to practice oral language expression. Apparently the treatment was not effective in this area. The experimental group did not show a significant change in the total area of student talk. An increase in the amount of student talk to a point where it is approaching significance was observed for the students of the teachers in the control group.

It appeared to be evident from this research study that training in interaction analysis and the individual reading conference resulted in statistically significant desirable changes in the areas of teacher acceptance of student feelings and ideas, lecturing, teacher-directed student response, student-initiated response, indirect and direct teacher influence, and planning. It also appears that these changes persist after training.

In summary, the following major conclusion emerged from this study: the evidence presented in this study indicates that training in verbal interaction analysis and the individual reading conference could be useful to help teachers increase their level of facilitation in the individual reading conference.

Recommendations

The following recommendations are offered for further research:

1. There was no attempt in the present research study to delineate any differences in the types of conferences held. Further research is needed to determine the distinguishing characteristics of the various types of conferences. Also, further research is needed to determine if different types of conferences have an effect upon the communication patterns between teacher and student.

2. No attempt was made in this study to determine the relationship of specific categories in verbal interaction analysis to the individual reading conference. Further research in this area might reveal the importance of specific communication categories to the conference.

3. Further research might reveal the specific relationship between student attitude and/or reading ability and the changes effected through training teachers in interaction analysis and the individual reading conference.

4. The effect of training in verbal interaction analysis and the individual reading conference on prospective teachers should be studied. Incorporating this training into teacher-training programs would appear to be beneficial.

5. No attempt was made in this study to delineate the treatment effect of training in interaction analysis and the treatment effect of training in the individual reading conference. Further research might reveal the specific effects of each upon the conference.

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The Observational Technique of Interaction Analysis Applied to the Classroom: Procedures and Limitations*

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Systems designed to analyze social interaction have been widely used in research involving small groups and classroom situations. Bales[3], the sociologist, has adopted interaction techniques to study of small face-to-face problem-solving groups. H. H. Anderson[2] in his observation of dominative and integrative acts of teachers and children developed one of the early systems for observing teacher behavior in classrooms. More recent research on teacher behavior by Withall[6], Hughes[5], and Flanders[1], has also utilized the approach of analyzing the interaction between teacher and children, concentrating on obtaining an objective picture of this interaction. With the recording of teacher behavior has come the idea of relating the quantified information thus yielded to important student outcomes such as achievement and attitudes.

The system described here, the Flanders system of interaction analysis, has been utilized to discover some of these relationships. In the Flanders system only verbal interaction between teachers and pupils is analyzed because of the difficulty in reliably categorizing non-verbal behavior. All teacher-pupil interaction is divided into ten categories, seven of teacher talk, two of student talk, and one

*This paper was delivered at the American Educational Research Association, February 1963, in Chicago, Illinois.

of silence or confusion. Reference to the following chart during the reading of the following section will assist the reader in obtaining the over-all picture of the categories described in this section.

Teacher talk is recorded under one of two major headings: (a) indirect influence, and (b) direct influence. Indirect influence contains four, and direct influence three, categories. Included under the classification of indirect teacher influence are those types of teacher statements which increase student freedom to respond. Direct teacher influence refers to statements which restrict response by students.

A closer look t the categories of indirect influence reveals the exact types of teacher statements included here. Category one, acceptance of feeling, contains teacher statements communicating acceptance by the teacher of both positive and negative student feelings. Statements which judge the "goodness" or appropriateness of pupil behavior comprise category two. These may be either praise or encouragement. Category three, acceptance of ideas, is made up of teacher statements which reflect, summarize, or clarify student ideas. Teacher questions which require children's response are assigned to category four.

Categories of direct teacher influence reveal a contrasting type of teacher behavior. Lecture, giving information, and expressing opinion are recorded in category five, and category six is used for the teacher's directions to pupils. In category seven are placed both statements of criticism and those in which the teacher justified his authority. Such statements are usually designed to change pupil behavior.

Student talk is divided into only two categories--category eight, which is student talk in response to the teacher, and category nine, student talk initiated by the student.

In the remaining category are recorded periods of silence or confusion. Pauses, short periods of silence, and periods during which the observer cannot determine who is talking are included in this category. Such a category is necessary because it allows the person who is doing the recording to account for every minute of the time spent in systematic observation.

A summary of the ten categories of interaction analysis with brief definitions can be found on page 85.

Procedure for Observing Teacher-Pupil Interaction

Use of the interaction analysis system involves an observer's spending several hours in a classroom observing various kinds of classroom interaction. The most typical procedure for collecting interaction data in research is presented in this section.

The observer enters the classroom and seats himself in a place where his presence will cause the least amount of distraction to the teacher and the class. He then spends from five to ten minutes observing without recording. During this time he is getting oriented to the classroom, acquiring a "feeling" for the total situation. This accomplished, he begins to record. Every three seconds he writes the category number of the teacher or student verbal behavior which he is observing at the moment. These numbers are recorded in sequence in a column. Since the observer writes approximately 20 numbers per minute, at the end of an observational period of 15 or 20 minutes he will have

CATEGORIES FOR INTERACTION ANALYSIS
Minnesota, 1959

TEACHER TALK	INDIRECT INFLUENCE	1.* ACCEPTS FEELING: accepts and clarifies the feeling tone of the students in a nonthreatening manner. Feelings may be positive or negative. Predicting or recalling feelings are included.
		2.* PRAISES OR ENCOURAGES: praises or encourages student action or behavior. Jokes that release tension, not at the expense of another individual, nodding head or saying "um hm?" or "go on" are included.
		3.* ACCEPTS OR USES IDEAS OF STUDENT: clarifying, building, or developing ideas suggested by a student. As teacher brings more of his own ideas into play, shift to category five.
		4.* ASK QUESTIONS: asking a question about content or procedure with the intent that a student answer.
	DIRECT INFLUENCE	5.* LECTURING: giving facts or opinions about content or procedure: expressing his own ideas, asking rhetorical questions.
		6.* GIVING DIRECTIONS: directions, commands, or orders to which a student is expected to comply.
		7.* CRITICIZING OR JUSTIFYING AUTHORITY: statements intended to change student behavior from nonacceptable to acceptable pattern; bawling someone out; stating why the teacher is doing what he is doing; extreme self-reference.
STUDENT TALK		8.* STUDENT TALK--RESPONSE: talk by students in response to teacher. Teacher initiates the contact or solicits student statement.
		9.* STUDENT TALK--INITIATION: talk by students which they initiate. If "calling on" student is only to indicate who may talk next, observer must decide whether student wanted to talk. If he did, use this category.
		10.* SILENCE OR CONFUSION: pauses, short periods of silence and periods of confusion in which communication cannot be understood by the observer.

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

recorded several long columns of numbers. Accuracy of observation and recording is of prime importance, of course, but evenness of tempo is also vital. While the observer is recording the appropriate category numbers he often records marginal notes explaining unusual happenings in the classroom. These are helpful later in interpreting the material gathered.

The observer always notes the type of class activity being observed, since obviously interaction will vary from one activity to another. Whenever the classroom activity changes so that observing is inappropriate, as, for example, when there are various groups working around the classroom, when the class members are working at their seats on individual work, or when silent reading is taking place, the observer stops recording. He then draws a line under the recorded numbers, makes a note of the new activity, and begins categorizing again, when the total class interaction resumes.

Observer Training and Problems of Reliability

The degree of effectiveness of interaction analysis data in research depends upon the level of skill which observers can achieve during training. The first important step in observer training is a thorough understanding of the categories. Familiarity with the system must be such that transfer from the words to the number is automatic in the observer's mind. A teacher's question, for example, is perceived as a "four," rather than a question.

Typically, a training procedure for observers looks something like this. A small group of observers begin by categorizing together from tape recordings of classroom sessions. After this procedure has

been followed on tapes of several kinds of classrooms interaction, the observers divide into teams of two in order to analyze even more thoroughly and carefully recording of teacher-pupil interaction in different subject areas and at various grade levels. The two observers may categorize a tape separately, then discuss any disagreements which they see upon comparison of their results. From six to ten hours of training with tapes are usually required before the observers are ready to move into the classroom.

Clearly the classification of every statement into one of the categories is not always accurate. Many questions arise concerning whether a statement belongs in one category or another. Ground rules about classifying statements, although not completely eliminating disagreement among observers, have been found helpful and necessary in many cases. Certain of these rules which appear to apply to a great number of teaching situations are discussed here. For a specific research project, however, an observer team may develop a list of special ground rules applicable only to that project.

Rule 1: When not certain in which of two or more categories a statement belongs, choose the category which is numerically farthest from category five. This is true except when one of the two categories in doubt is category ten, which is never chosen if there is an alternate category under consideration.

Rule 2: If the primary tone of the teacher's behavior has been consistently direct or consistently indirect, do not shift into the opposite classification unless a clear indication of shift is given by the teacher. The trained observer who is observing a

particular action is in the best position to judge whether or not the teacher is restricting or expanding the freedom of action of class members.

Rule 3: The observer must not be concerned with his own biases or with the teacher's intent. Rather, he must ask himself the question, "What does this behavior mean to the pupils so far as restriction or expansion of their freedom is concerned?"

Rule 4: If more than one category occurs during the three-second interval, then all categories used in that interval are recorded; conversely, record each change in category. If no change occurs within three seconds, repeat the previous category number. Use of these ground rules has been found to improve reliability. Observers who are considered to be ready for classroom observation need to be checked to determine the extent of the reliability of their observations. This reliability can be defined in terms of inter-observer reliability, that is, the agreement between two observers observing a period of classroom interaction (or a tape of that interaction) or in terms of self-reliability, agreement between recordings of two separate hearings of one taped session by a single observer. Use of the Scott[4] coefficient affords an approximation of observer agreement, although it does not reflect the extent to which two observers agree on the sequence of categories they have recorded. What the Scott coefficient does give is a general idea of the extent of agreement between two observers of the amount of a particular category a teacher employs. For training purposes, of course, the observers need to have as much information as possible about their progress. Higher Scott coefficients

after increased practice indicate such progress. No method is yet available for dealing with the problem of the reliability of sequential ratings.

Discrepancies in observation between trained observers represent only a small fraction of the differences in teaching methods existing among teachers compared in a research project, so observer error is not responsible for most differences noted.

Description and Summary of Interaction Analysis Data

One of the problems in development of classroom observation techniques has been that of providing a means of taking care of the problem of sequence in behavior. The Flanders system of interaction analysis provides a procedure for partially dealing with this problem. As the reader will recall, the observer preserves the original sequence of classroom interaction by recording the category numbers in columns. The following example demonstrates an observer's classification of a short period of classroom interaction and then his summary of that data for later analysis.

A social studies lesson begins in a fourth grade. The observer, who has been sitting in the classroom for several minutes in order to gain some idea of the general climate, now starts to record.

Teacher: "Boys and girls, please open your social studies books to page 5."

Observer classifies this as a 6, followed by a 10, because of the period of silence and confusion during which the children find the right page.

Teacher: "Jimmy, we are all waiting for you. Will you please turn to page 5 in your book?"

Observer records a 7 and a 6.

Teacher: "I know now that some of you had difficulty with and were a little upset by this chapter yesterday, but I think that today we will find it more exciting and interesting."

Observer records two 1's, reacting to feeling.

Teacher: "Now has anyone had a chance to think about what we discussed yesterday?"

Observer records a 4.

Student: "I thought about this, and it seems that the reason that we are in so much trouble in southeast Asia is that we haven't really had a chance to learn to understand the ways of the people who live there.

Observer records three 8's.

Teacher: "Good, John. That is a very interesting point which I think we should examine more carefully."

Observer classifies this as a 2.

Thus the following sequence of numbers have been recorded by the observer in this fashion:

(10 6) (10 7) (6 1) (1 4) (8 8) (8 2) (10

Notice that in the listing above the numbers have been marked off in over-lapping pairs. The first pair is 10-6, the second 6-10, the third 10-7, etc. The numbers are summarized by placement in a 10 row by 10

column table called a matrix. A sample matrix for the interaction pattern just discussed is shown as follows:

Sample Matrix

	1	2	3	4	5	6	7	8	9	10
1	1			1						
2										1
3										
4								1		
5										
6	1									1
7						1				
8		1						11		
9										
10						1	1			

The cell in the matrix in which a pair is to be recorded is determined by using the first number in the pair to indicate the row, the second number for the column. Thus the pair 10-6 is shown by a tally in the cell formed by row 10 and column 6; the second pair, 6-10, in the cell formed by row 6 and column 10, etc. Notice that each paid of numbers overlaps with the previous pair; therefore, each number with the exception of the first and last, is used twice. For this reason a 10 is entered as both the first and the last number in the observation, 10 being a logical number for the beginning and ending of each session. Such a procedure permits the total of each column to equal the total of the corresponding row.

The tabulations in the matrix can be checked for accuracy by making certain that there is one less tally in the matrix than there were numbers entered in the observation record itself (N-1). In this case, because we began with 13 numbers, the total number of tallies in the matrix is 12.

Analyzing and Interpreting a Classroom Interaction Pattern

What actual knowledge about a classroom does an observer possess when he has completed a matrix such as the one described in the proceeding section? In other words, how does he go about making sense from this maze of tallies and cells?

He may begin by comparing some percentages, probably first of all the percentage of the total tallies which fall in each of the columns. Then he determines the percentage of total teacher talk which falls in each of the seven teacher categories. And lastly, he finds out what percentage of the total of student talk falls in each of categories eight and nine.

In order to discover whether the teacher is predominantly direct or indirect, the total number of tallies in columns 1, 2, 3, and 4 is divided by the total number of tallies in columns 5, 6, and 7 to find the "ID Ratio," what is the ratio of indirect to direct teacher statements. An ID ratio of 1.0 means that for every indirect statement there was one direct statement, and ID ratio of 2.0 that for every two indirect statements there was only one direct statement, etc.

Identification of individual cells in which there is a large accumulation of tallies, as well as possibly some cells in which there

are few or no tallies is an important part of matrix analysis. Location of tallies or lack of tallies in groups of cells in specific parts of the matrix may be of even greater significance. Such groups of cells make up important areas of the matrix, which because of their importance are given special emphasis. These areas are discussed next in some detail. The reader will want to refer to the chart during this next section in order to locate the areas being considered.

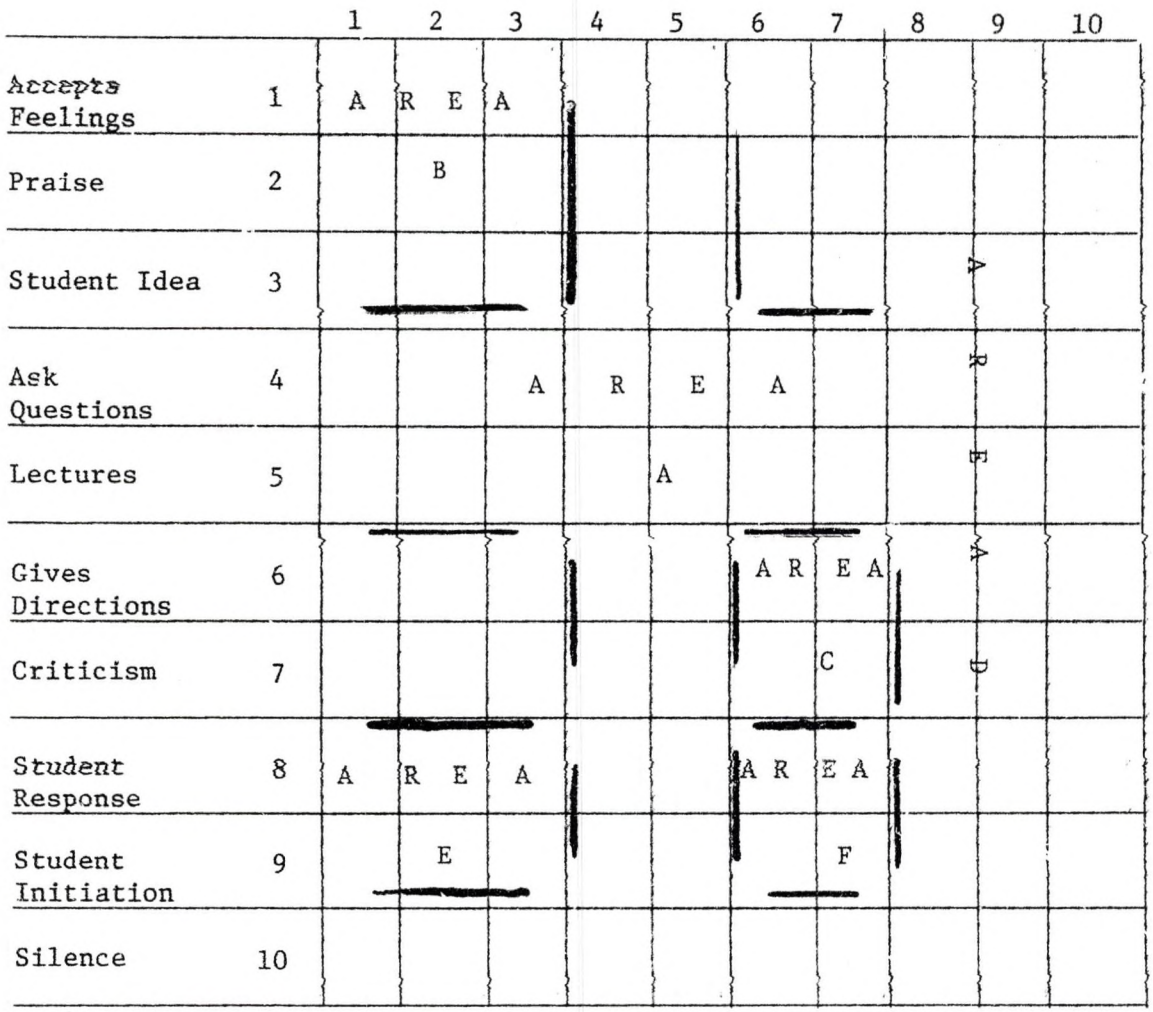
Area A called the content cross, contains tallies representing teacher statements consisting primarily of lecture, statements of opinion and ideas, and teacher questions concerning information and content presented. Thus a heavy concentration of tallies in this area indicates an emphasis on presentation of content.

The emphasis which the teacher gives to using student ideas, amplifying student contributions, and accepting and enlarging upon student feelings, is represented in Area B. It also includes stages of transition from one of these categories to the next. High frequency of tallies in this area indicate the use of extended indirect influence by the teacher.

Area C tallies suggest teacher emphasis on criticism and direction or on a shift from one to another of these types of influence on the part of the teacher, with a focus on the teacher's authority.

Examination of the tabulations which fall in Area D indicates the kind of teacher statements which tend to stimulate student talk, answering the question, "How do students in this classroom become involved in classroom interaction?"

AREA OF MATRIX ANALYSIS



Areas E and F are important because they reveal the manner in which the teacher responds to student talk, Area E representing the indirect, and Area F the direct response. A comparison of the relative number of tallies in these two areas indicates whether a teacher is primarily indirect or direct when responding to student talk.

Although by no means the only significant groups of cells in the matrix analysis of the ones just discussed has been helpful in affording a picture of classroom interaction. In some of the research concerned with identifying superior teaching, others have proved exceedingly significant.

Some Limitations of the System

Some of the more general overall limitations of use of the Flanders system of interaction analysis are immediately evident. The system is designed for use only when the student and teacher are engaged in verbal interaction. This means that if for one reason or another the teacher is interacting in a non-verbal fashion with class members, no record is made of this interaction. Possibly in certain teaching situations this non-verbal communication is important enough to warrant attention. Further, when a teacher has the class broken into small groups in which he himself is not interacting with the children, all interaction being child to child, no effective observation is possible. If the teacher is interacting with one of the small groups, however, this group can be observed in much the same manner as would the total class. The system, moreover, can not be utilized in situations in which the teacher is using audio visual aids or other tools which make it unnecessary for him to talk.

Of the specific limitations inherent in the system, one in particular warrants attention here. Category 4 contains teacher questions--all types of questions requiring pupil response. No allowance is made for different types of questions, for example, those broad and those narrow in scope. Length of student response, indicated by several consecutive 8's, may reflect something about the kind of question, but specific information about teacher questioning is still lacking in the matrix. Likewise, there is no specific indication about student response in terms of its correctness or incorrectness. Again, the ensuing response by the teacher may (or may not) suggest the correctness of the student's reply.

The categories contained in the system, although fairly inclusive concerning teacher talk are rather more limited in the area of student participation. Supposing, for example, one student questions another student. No indication is given in the matrix, except, of course, that many consecutive 9's indicative of prolonged student conversation, might lead an interpreter to guess that some questioning had indeed occurred. Anger on the part of the student, again, may not be revealed in the matrix, except that we might expect a teacher reprimand (7) or perhaps acceptance of feeling (1) to follow. In other words, no <u>exact</u> interpretation of much of student verbal behavior is provided for in the system.

The Flanders system of interaction analysis, although not "the final answer," appears to have great potential as a highly significant tool for research about the teaching-learning process. Certainly information about the verbal interaction of the classroom provides a

great deal of insight into the climate of the classroom, and according to research some indication of how much subject matter and what kinds of attitude pupils are absorbing.

Educators who are considering use of this tool must ultimately base their decision concerning its use on the extent of the relationship existing between teachers verbal interaction and pupil learning.

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APPENDIX B

The Individual Reading Conference

Importance of the Conference

The importance of the individual reading conference has been pointed out by many well-known writers in the field of reading. Barbe (1961) and (1965) referred to it as the very core of the program and stated that no phase of the reading program is as important as the individual conference. It is at this time that the teacher successfully reaches the child and succeeds in teaching him to read, or fails to reach him and therefore fails to aid him in becoming a better reader. He indicated that part of its value resulted from the enthusiasm with which the children responded to this display of special interest. Robinson (1960) stated that this period of personal attention given by the teacher is one of the major assets of the individualized reading approach. Hunt (1967) also referred to the teacher-pupil conference as being central to the individualized reading program. In referring to this type of program, Harris (1962) stated:

> These teacher-pupil conferences are considered to be an essential and uniquely valuable part of the procedure. They provide the main evidence for evaluating the pupil's reading and giving the help a child may need. Although the conferences do not come frequently, the children are said to gain a good deal of satisfaction from having the teacher's exclusive attention, and some writers assert that the number of minutes of personal attention each child receives is as much as, or more than, he would get during daily group reading lessons. It is also claimed that the teacher can get a clearer picture of the child's reading performance when attending to him exclusively than is usual in the more frequent but briefer pupil responses during group sessions. (pp. 162-163)

Blakely and McKay (1966) suggest that one of the elements that distinguishes individualized reading from simple "free reading" is this definite individual discussion and instruction involving the teacher and pupil.

The individual reading conference also provides an opportunity for the teacher to find out more about the individual child and his needs than might otherwise be possible. As Betts (1957) stated, it enables the teacher to "learn" the individual. Hester (1964) stated:

> Continuous evaluation is an asset in any program. Pupil-teacher conferences which cause teachers to become alert to pupil needs encourage teachers to observe and diagnose reading weaknesses and to provide guidance to help children overcome their difficulties. (p. 314)

The use of the individual reading conference as a necessary adjunct of the basal reading program was pointed out by both Criscuolo (1969) and Sartain (1960). Carline (1967) also indicated this when he stated:

> Individual conferences become necessary because it is not likely that truly accurate notes can always be made during group activities. (p. 47)

Austin, Bush and Huebner (1961) professed this same idea.

Veatch (1967) also pointed out the importance of the individual reading conference. In another of her writings (1966) she stated:

> The individual conference is the peak, the apex, the climax, the high point of the instructional reading program. Everything that comes before leads to it. Everything that comes after should be determined by what happens in it. (p. 120)

Preparation for the Conference

Spache and Spache (1969) pointed out the importance of having a planned but flexible conference. They suggested that the teacher should be prepared for intelligent questioning by previewing and knowing the relative difficulties or grade levels of the books the children are reading. Reviewing the record of the child's last conference will also be helpful. He also stated that pupil readiness

was second only in significance to teacher readiness. Various decisions which the student should make in preparation for the conference are pointed out by Veatch (1966), such as whether or not he wants to present this particular book for a conference, what he plans to do as a result of reading this book, and whether or not it is appropriate for him to have another conference at this time. Stauffer (1969) suggested that, if a child comes for a conference when he is not prepared, he should be gently but firmly sent back. However, Barbe (1961) pointed out that the child should not feel that he must be formally prepared as if for a testing period.

Purpose, Procedure, and Content

A variety of interpretations have been given of the purposes, procedures, and content of the individual reading conference. To some writers, the conference is simply an opportunity for casual discussion of the child's reading selections, his enjoyment of the material, and his probable future choices. To others, the conference may involve reading diagnosis, planning for related instruction which may include remediation, careful recording, review of the child's current and future reading, counseling and perhaps other factors as well.

Spache and Spache (1969) stated:

> Teacher skill in the conference determines whether there will be effective diagnosis of the pupil's instructional needs or any continuous evaluation of his overall reading development. The conference is a crucial opportunity for observation of the child's reading interests and his skills in word recognition, comprehension, oral and silent reading. In effect the recurring conferences become the major means of communication between the teacher and pupil in the area of reading instruction. On the one hand, the conference is the basis of teacher diagnosis, planning, and instruction; while on the other, it is the prime pupil opportunity for receiving personal instruction, guidance, and support. (p. 324)

They further suggested three types of conferences. One would be for diagnostic purposes, another would be for a skills inventory, and a third would be for evaluation of the child's growth in reading interests. This is a further elaboration of Spache's discussion on conferences in his 1963 publication.

Hunt (1967) stated:

> Within the conference the teacher uses all of her talents and knowledge to intensify the child's involvement with ideas and words. During this time teacher and child may discuss appealing aspects of the book, ideas presented by the author, implications of these ideas as guides for living, and the child's personal reaction to the book. The teacher determines whether the child knows in general what is happening and can select the important ideas in the book. (p. 4)

He also stated that skillful questioning by the teacher was of great importance for the success of the conference. He placed questions in three categories concerning the appropriateness of the book, the child's appreciation of the book, and values gained from the book.

Veatch (1966) and (1967) also noted the importance of the proper type of questions and insisted that they be open-ended and thought-provoking. She suggested that they be used to examine and evaluate four main areas during the conference. The comprehension area includes the main idea of the book, an appraisal of the child's value structure, inferential and critical reading, knowledge of the sequence of the story, and information about the author. Another area deals with the reasons for the choice of book and clues to the child's personality. This involves personal identification, awareness of peer-group action, and evidence of modification of behavior. A third area is that of mechanical skills. This area includes word definitions, study skills, the ability to analyze unknown words, and reading for

details. The fourth area involves oral reading during the conference. She presented some specific pointers for asking questions:

1. Use questions that, while based upon the reading matter, help a child relate real life to what he has read.
2. Ask short provocative questions that produce long thoughtful answers.
3. Ask questions that help a pupil to widen his horizons from whatever limited base the reading matter might hold.
4. Frequently begin questions with the words, "Why, what, when."
5. Ask questions that stretch a child's ability to answer. Without making the situation unduly embarrassing, be hesitant to provide answers.
6. Encourage answers that are original with the child and, better yet, new to the teacher.
7. Present questions that show a pupil he has the right to his own opinions, even though he is asked to consider more than one point of view.
8. Ask questions that drive behind the actual facts presented in the material.
9. Ask questions that have worth in themselves, and are not designed to help a pupil guess the answer in the teacher's mind.
10. Give the pupil opportunity to think over an answer after the question has been given. Rapid-fire questioning may disorganize some pupils. (p. 134-135)

Besides using the conference to check on comprehension, oral and silent reading ability, word attack skills, and reading habits and interests, Barbe (1961) also suggested that it could be used for remedial purposes and as a counseling session. Groff (1960) also placed much stress upon the use of the individual reading conference as a counseling session. Russell (1961) added the reminder that, besides using the conference for remedial work, it should also be used to lead and guide the gifted and to help the average. Smith (1963) added to the list of conference uses by suggesting that they also be used to go over test results and to help the child understand where he stands in vocabulary, comprehension, and speed. Barbe (1961) took a slightly different view from most of the other writers and stated that the

individual reading conference should not be used for skills development except in an incidental way.

It is also considered necessary to make record-keeping a part of the individual reading conference. Veatch (1966) suggested that the teacher use a three-ring dimestore notebook in which pages can be added or taken out as necessary to note the book read, the student's problems and interests, the date of the conference, and the suggested follow-up. From this the teacher can discern the deficiencies, skills, interests, projects, and other items that it is necessary to know to plan the next conference. Hunt (1967) concurred with this while Carline (1967) suggested further that the students would gain encouragement from keeping a set of records of their own or from keeping them jointly with the teacher. Spache and Spache (1969) also suggested that the students be involved in the record keeping but he also listed five basic types of records for the teacher to keep. The first type would include pertinent information from the school's cumulative record of the child as well as information from discussions with the previous year's teacher. A second record would include the child's instructional, independent and potential reading levels. The third and fourth records would include his oral reading behaviors and analysis for which a check-list might be provided. The final set of records would include those notes which the teacher deems adequate for judging and guiding the progress of the pupils. From these individual records, group records could be made.

Posner (1961) was concerned with keeping a record of the skills of comprehension, word recognition, contextual clues, configuration

clues, phonetic analysis, vocabulary building, location skills, and organization. He also included data on the child's informational and recreational reading. Groff (1960) also stressed the importance of keeping a skills record but included notes on the student's critical thinking, his appreciation of the literary quality of the material read, his attitude toward reading, his work habits, and his oral reading. Barbe (1965), Groff (1964), Barbe (1966), Harris (1962), and Smith (1963) all stressed the importance of keeping careful records of the individual reading conference.

The various writers in the field of reading do not vary greatly in the length of time they suggest for an individual reading conference. Smith (1963), Evans (1965), Strang, McCullough, and Traxler (1967), Bond and Wagner (1966), Harris (1962), Veatch (1966), and Spache and Spache (1969) all indicated that the conference should be between two and ten minutes in length with the average being about five minutes. Barbe (1961) suggested that they be between five and fifteen minutes in length.

The place where the individual conference is held should be a place in the classroom that is quiet, comfortable, and free from interruption or unnecessary distractions. Barbe (1961) suggested that the teacher place herself off to one part of the room away from the other children, either at a desk or table, with a seat for the child nearby. Smith (1963) also suggested that the child should come to the teacher. Veatch (1966) stated that, for both psychological and educational reasons, the teacher and the student should be seated side by side with the material in front of them. However, there may be times when,

for oral reading purposes, they may want to sit facing each other to provide a more natural audience situation.

All of the foregoing criteria for the individual reading conference suggest that the particular needs of the child involved should determine the substance of the conference. This leaves each teacher with the final responsibility for planning each conference. It may also be helpful to recall Veatch's (1966) reminder that the child presents only a portion of his total reading effort during the conference.

Closure

Proper closure of the conference is considered to be very important for psychological as well as for instructional reasons. Veatch (1966) indicated that knowing how to close a conference well leaves a student eager for the next one. She stated:

> In each case the conference should end with some kind of a summary statement by the teacher. The statement should be a kind of winder-upper for their work together. There should also be assignments, if necessary, in self-directed activities with specific times for their checking scheduled or planned for. Some kind of positive comment, such as praise, should be included in the final seconds of a conference. There is always something that can be found--even if it seems only minor to the teacher. A change of attitude toward reading, a longer time spent in silent reading are examples of praiseworthy actions.
>
> The teacher in individual, group, and class sessions must cultivate the sense of when to close. Reaching a climax, and then stopping even if there is still time, is better than dragging out a session that has lost its punch.
>
> To conclude, closure is best done when the teacher:
>
> 1. Indicates follow-up with:
>   a. Self-directed activities
>   b. Group sessions
>   c. Individual assignments
> 2. Finds something to praise
> 3. Concludes upon a high point. (p. 160)

Spache and Spache (1969) also stressed the importance of adequate follow-up of the conference. He specified such things as planning for the sequential development of skills, phonic elements, structural elements, types of contextual clues, and approaches to sight and meaning vocabularies. Book-sharing activities are frequently a part of the follow-up. All of these things suggest that the teacher may need some materials at hand for the follow-up activities.

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APPENDIX C

TABLE 31

RESEARCH SUBJECTS

Control				Experimental			
Teacher	Sex	Years Experience	Grade Level	Teacher	Sex	Years Experience	Grade Level
A	M	8	6	A	M	3	6
B	M	4	6	B	M	4	6
C	M	4	5	C	M	4	5
D	F	13	5	D	F	15	5
E	F	8	5	E	F	7	5
F	F	11	4	F	F	10	4
G	F	14	4	G	F	18	4

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