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AUTHOR Thompson, Billie M.  
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## ABSTRACT

A study was conducted to determine if and how teachers changed as a result of participating in a National Writing Project summer institute. The study investigated the process of change as based on reports of 16 elementary through college level teacher-consultants who attended the institute. The decision-making operation process of the teachers to try an innovation, adopt, adapt, or reject it was observed through three focused, informal interviews and three surveys developed to elicit the teachers' perceptions without interference in the actual institute experience. A review of the literature on change provided a basis for the research, and a theory of the practical grounded in experience resulted. The study identified the types of changes that are possible and the factors that influence teachers' decision to try or not try a teaching method. (Extensive appendixes include: (1) personal data about the participants, (2) a timetable of research procedures, (3) data collection information, (4) questions developed for the three interviews, (5) pretest and postinstitute evaluation surveys of teaching methods for writing, (6) results of survey data, and (7) a list of goal definitions for teachers of writing.) (AEA)

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## A THEORY OF "TEACHER CHANGE DEVELOPED FROM

### TEACHERS OF WRITING

Billie M. Thompson

#### Problem Statement

In many curriculum areas, including writing, research indicates that some commonly held notions about what and how to teach may be non-productive and even harmful to students. It has been assumed that by changing teachers' notions and methods, student competencies and attitudes toward learning would improve. A model for improving teacher competency in writing existed through the National Writing Project (NWP). The present researcher asked what and how teachers changed when they participated in an NWP summer institute. A review of literature about educational change indicated several needs: (a) to develop a theory about the process the individual teacher undergoes when experiencing change, (b) to see if research findings about change in non-educational fields are appropriate to education, and (c) to develop a cogent theory of teacher change from a compilation of diverse theories of change.

#### Research Process

The grounded theory research process (Glaser and Strauss, 1967) was used to develop a theory of teacher change. A grounded theory approach is an open-ended process of continuous collection, categorization, and analysis of data and/or material and related literature. The study was reported in a chronological narrative

1979), describing how a large body of quantitative data and qualitative material--over 1,600 pages--was managed. Since grounded

theory is a relatively unused process in the field of educational research, the reporting style was a contribution to the field.

This report describes (a) factors influencing teachers' decisions to try a method, (b) teaching method changes and other changes reported by research participants, (c) institute situations to which participants responded both favorably and unfavorably, and (d) the theory of teacher change.

According to Glaser and Strauss, a random population is not necessarily needed for theory building. The sixteen research participants of this study were a theoretical sample which met the grounded theory criteria of theoretical purpose and relevance. No projection about generalizing to a random population or to successful teachers in other curriculum areas was made. Generalizing from this type of study depends on a thorough description of participants and situation, so that people in similar settings can determine if the findings are applicable to them. (Tikunoff and Ward, Note 1)

The National Writing Project began in 1978 when forty-one summer in-service institutes modeled after the five-year-old Bay Area Writing Project (BAWP) were held at university and college sites across the United States. Gray and Myers (1978), two directors of BAWP, identified Teacher/Consultants, as the five-week institute participants were called, as individual teachers experiencing change. Keech (1978, Note 2) identified some changes reported by 1977 BAWP Teacher/Consultants in her description and evaluation of the project. The changes included new skills in using methods, increased confidence, improved writing ability, personal growth, new leadership roles in school and district, and changes

in attitude. They were similar to outcomes described by Kelley (1951) for participants of a decade long workshop conducted at Wayne State University.

It was assumed that because participants in NWP institutes would be selected by the same criteria and participate in the same process as BAWP participants, they represented a theoretical sample of teachers experiencing change. Sixteen of twenty-five Teacher/Consultants in one NWP institute, hereafter referred to as the Institute, agreed to participate in the present study. The Institute was held on the campus of a major southwestern state university. One of the directors of the Institute had spent the previous summer visiting BAWP. Five staff members served as instructors and/or directors of the Institute.

The NWP in-service design was strictly followed, which precluded observers in any daily sessions. This met Bronfenbrenner's (1976, 1977) criteria for improving internal validity by conducting research in settings that occur in the culture for other than research purposes. The participants in this study were engaged in an Institute created to improve the teaching of writing, not to research the improvement.

The summer Institute ran for five weeks, meeting four days a week, plus a social evening event per week in one of the instructor's or Teacher/Consultant's homes. The morning sessions were planned to include two presentations and discussion time for two Teacher/Consultants. Afternoon sessions were split. Two were devoted to meeting in writing groups of five or six persons to discuss papers written by Teacher/Consultants in that group. The other two afternoons involved

lecturers or presentations by outside experts, university faculty members, or instructors.

Teacher/Consultants were identified and selected through recommendations from their school district administration and others familiar with their work and through interviews with Institute staff. They were recognized as outstanding teachers with an open approach to ideas. They agreed to make a formal presentation on some aspect of teaching writing during the Institute, to do required Institute writing, and to plan and conduct district in-service classes following the summer.

The sixteen research participants included in this research study represented a wide range of teaching levels, years of teaching experience, age, degree of involvement with professional organizations, degrees held, and number of students in the classroom. Appendix A includes personal data about these participants.

The study investigated the process of change as based on reports of the participants during their experience of the process. It was assumed that a teacher acts on his or her perceptions regardless of the actual situation. This focused the study not on observed teacher behavior, but on the decision-making process of teachers to try an innovation (their intention), adopt, adapt, or reject it, and to the consciously raised and willingly stated factors influencing these decisions.

The theory that resulted from the research process is a theory of the practical grounded in experience, much as Schwab (1972) called for. Though theories are tentative and provisional and neglect some aspects of the facts of a case, Glaser and Strauss (1965) suggested a practical need for theory--enhancing user control, given a flexible and enlightened

user.

Data and material were collected, categorized, and analyzed during an eight month period of the 1978-1979 school year. The bulk of the data and material was gathered during the first two months of the study followed by interim and final stages of analysis and theory building. Appendix B chronologically describes the research procedures and timetable. Appendices C and D show the data and material collection and timetable for each participant.

Questions for three focused, informal interviews and three surveys were developed to elicit the participants' perceptions without researcher interference in the actual Institute experience. Appendix E lists the questions asked in the interviews, some of which were created before the Institute began and some of which were generated during the research process. All interviews were tape recorded and transcribed.

The "Evaluation of Teaching Method" survey (Appendix F) was completed daily by participants in the Institute staff office. The participants evaluated twenty-seven methods of writing presented during the Institute by Teacher/Consultants and guest speakers. Most questions on the survey were based on the characteristics identified by Rogers and Shoemaker (1971) as important ones for explaining the rate of adoption of innovations in areas other than education. These were relative advantage, compatibility, complexity, trialability, and observability. Two open-ended questions were asked to identify additional influences.

A "Have You Tried It?" survey (Appendix G) was created to identify the participants' use of methods for teaching writing both before and a semester following the Institute. The methods were found in a review of



literature, with face validity established by the Institute staff.

A "Use of Institute Presentation Survey" (Appendix H) was given to participants during the third interview to indicate the extent of their use in the fall semester of the methods presented during the Institute.

Other material available to the researcher were four papers about writing completed as Institute assignments: (a) an essay about the problem confronting today's teacher of writing, (b and c) a first and a second position paper on the teaching of writing, and (d) a written contribution about the teaching of writing. Four personal writings of participants which they presented and discussed in their writing groups were not available to the researcher.

#### Review of Literature

Toffler (1970) brought national recognition to the disease of change called future shock. He was appalled by how little was known about people's ability to adapt, to change, there being no adequate theory about it. Sarason (1971) commented on the lack of knowledge and theory about the change process within the school culture. He said people do not generally recognize the lack of knowledge about change processes as a problem, nor do they see the complexity of the problem.

Lippitt (1967), Lortie (1975) and Berman et al. (1975) indicated comparisons were difficult to make between innovation adoptions in education and in other fields, such as business and agriculture.

Loucks and Hall (Note 3) emphasized in their research about implementation of educational innovations that change is a process and should be investigated as such. They created a Concerns-Based Adoption Model where the individual and the innovation are the frame of

reference from which the change process is described.

In the 1960's the focus on education change was on the research-development-diffusion model first described by Brickell (1961) and on seminars for educational leaders (Miller, 1967). It was assumed that innovative "teacher-proof" procedures or materials created and disseminated by R and D Laboratories could be diffused in their entirety to all teachers within a system to adopt. Referring to institutional change, Goodlad (1975) described the concentration on the R, D & D model as a tendency "to obscure and diminish long-standing, more inner-directed approaches to educational improvement" (p. 17). He warned that educational change could not be based on isolating separate parts of the whole because education is a natural system. It does not respond to a reductionist approach that does not describe the interrelationships of all the parts.

The lack of information about individual teacher change was identified by Good, Biddle, and Brophy (1975) who stressed individual teachers as important variables in the change process and urged they be researched as such. A Canadian study by Aylen, Anderson, and Wideen (Note 4) about situations and characteristics related to the adoption and implementation of innovative practices also recommended looking at the individual teacher as an adopter within the structure of a social system.

Descriptions of the teacher by other researchers suggested research about the internal process of change was of interest. Brickell (1961) depicted a passive recipient who would adopt an innovation if it were offered in the right way at the right time. Lortie (1975) depicted the



teacher as a present-oriented individual in the classroom isolated because of inner conservatism and the realities of the work place.

Rokeach's research about beliefs, attitudes, and values (1976) suggested beliefs were hierarchical and offered a basis for observing internal changes, some of which were manifested as behavior changes. A belief was defined as a simple proposition, conscious or unconscious, inferred from what one says or does, the content of which predisposes one to act. A value was defined as a type of belief centrally located in the total belief system which said how one should or should not behave or what one should or should not attain. An attitude was defined as a set of interrelated beliefs organized around an object or situation. An opinion was the verbal expression of some belief, attitude, or value.

Rokeach defined five classes of beliefs arranged along a central-peripheral dimension: (a) Type A primitive beliefs which are central fundamental beliefs supported by a 100 percent social consensus; (b) Type B primitive beliefs based on deep personal experience, including positive and negative ones about our own capabilities; (c) beliefs about which authorities to trust; (d) beliefs derived from authorities; and (e) inconsequential beliefs, which if changed do not significantly alter the total system of beliefs.

He conceived of attitude as having three components: cognitive, representing one's knowledge; affective, representing the intensity of arousal for or against an object or situation under certain conditions; and behavioral, representing the action one is predisposed to engage in. Relationships between attitude and behavior changes are difficult to show because expressed opinion or behavior change is always a function

of at least two attitudes--toward object or toward situation.

In one five volume study by the Rand Corporation about federal programs supporting change (Berman, Greenwood, McLaughlin, and Puncius, 1975), researchers reported that significant and pervasive changes in teacher behavior and attitudes did result from classroom organization and staff development projects. This report introduced the concept of mutual adaptation and concluded that the most successfully implemented innovations were ones which both changed the user and were adapted by the user. The study indicated further support for observing the internal process of change and suggested change involved more than adoption and implementation.

Rogers (1962) raised the need to analyze complex, or interrelated bundles of innovations, since individuals seldom view them singularly. The adoption of one may trigger the adoption of others. Rogers and Shoemaker (1971) kept that recommendation. They defined an innovation as "an idea, practice, or object perceived as new by an individual" (p. 19). Newness may be expressed in knowledge, attitude, or decision to use it. An innovation may have an idea component and an object component. Only the idea component is required.

Rogers and Shoemaker offered three categories of decisions regarding innovation adoption or lack of adoption. Authority decisions are made by a person in a superior power position. Collective decisions are made by consensus of those responsible for adoption. Option decisions are made by individual teachers regardless of decisions of others. A fourth type of decision is a contingent decision, or sequential combination of any of the other three types.

In their research on curriculum and instruction implementation, Fullan and Pomfret (1977) found that valuing an innovation is not sufficient for implementation to occur. It may be undesirable as a goal or have a painful process.

The literature reviewed was directed toward change agents as well as the process of change, implementation, adoption, and adaptation. One example was Havelock and Havelock's guide, Training for Change Agents (1973), representing the collective wisdom of fifty national leaders of research and educational training.

Many definitions of change as both noun and verb appeared in books and journals. Webster defined it as an alteration or substitution for something else. Educational researchers qualified it more. According to Miles (1964), between time 1 and time 2 some noticeable alteration has taken place in something. Aylen et al. (Note 4) said change is an observable alteration in a programmatic or behavioral regularity.

Sarason (1971) said change was the creation of new settings and that settings were major factors in the success or failure of change. Bennis et al. (1969) said it was an alteration of an existing field of forces. Kelley (1947) implied change was a move from treating symptom to cause. Chin (1967) identified five levels or definitions of change: substitution, alteration, perturbations and alterations, restructuring, and value orientation.

Some observations about change were made. First, the literature about innovations centered on system adoption of a single innovation rather than individual adoption of a series of possibly interrelated innovations. Second, the literature about change and innovation was

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from many frames of reference: the entire system, the individual school, the change agent, and the user. Third, different terms and definitions of terms made it difficult to create a single picture of the change process, if indeed a single picture could be created.

It was decided to consider change to be the main subject, and innovation, adoption, adaptation, implementation, and diffusion to be parts of change. Thereafter, the review of literature became more manageable and could more readily be incorporated when developing a theory of teacher change from data and material collected in the present study.

Two other decisions were made. The perspective for the theory would be from the position of the individual teacher within social systems as a coordinating factor for describing the process of change. Also, the change process for an individual teacher would be diagrammatically described and follow Lippitt's (1973) guidelines for model building.

Factors Influencing Teacher/Consultants' Decision to Try  
or Not Try Methods

Computer Analyses for the "Evaluation of Teaching Method" Survey

Data from the "Evaluation of Teaching Method" survey (Appendix F) allowed analyses of factors which influenced the participants' likelihood to try a method. Three standard computer programs in the Statistical Package for the Social Sciences (Nie et al., 1975) were used. These were Pearson's Correlation Analysis, Regression Analysis, and Factor Analysis. A fourth analysis, Coefficient Alpha by Stock and Elliott (Note 5), was used to find internal consistency of the instrument.

Appendix I describes the findings of each analysis and includes Tables II through I6 to display data. Based on results of the Alpha Coefficient, it was assumed that the survey had good reliability. From the statistical analyses, several overall observations were made: (a) likeliness to try a method was most often associated with characteristics of goals for students, compatibility with grade level and current methods used, the observability of improvement if the method is used, and the likeliness of others to try it; (b) ease of teacher preparation, ease of teacher use, and ease of use with existing resources frequently were found to be related to each other; (c) newness of information, whether about idea, process, or material was neither highly related to other items nor a contributing influence to a decision to try a method. This suggested that participants experienced attitude changes or re-evaluations of methods previously used or known to them and that it is the manner of using methods that improves attitudes rather than the method itself.

#### Combined Data and Material Categorization and Analysis

With the computer analyses completed, data and material were re-viewed to analyze what influenced a teacher to perceive a method as an alternative. Data considered was from the computer analyses of survey factors. Answers to open ended questions 13 and 14 on the survey, comments in the first three papers about writing, and comments in the interviews provided material.

The following categories were located in the data and material (see Appendix J) as factors influencing teachers' willingness to try a new method, depending on the method and the teacher: (a) appropriateness

to grade level, (b) appeal to others in the social group (Teacher/Consultants), (c) ability to satisfy predetermined goal or create awareness of new goal, (d) compatibility with own student population and classroom situation, (e) compatibility with resource needs, including time, materials, preparation ease, (f) compatibility with own teaching style, (g) compatibility with personal interests, (h) compatibility with own and/or district values, (i) observability of student accomplishment, (j) acceptability of presenter as an authority. Roger and Shoemaker's properties of relative advantage, compatibility, complexity, trialability, and observability were present in all identified influences except the acceptability of the presenter as an authority.

An extension of (c) was that teachers of writing hold goals for students in the following categories: (a) improve quality of writing, (b) improve fluency/creativity, (c) improve mechanics/skills, (d) apply experience to life, (e) improve self-evaluation, (f) improve ability to pass the district competency test. These categories are defined in Appendix K.

Appendix L shows a recommended "Revised Evaluation of Teaching Method Survey" based on these findings which could be used in further research. Another study using the Revised Survey would have to be conducted to identify the degree to which each is influential, since all factors were not included on the original survey.

#### Teaching Method Changes Resulting from the Institute Experience

The results of two surveys identified changes in teaching methods.

#### Pre- and Post- "Have You Tried It?" Surveys

The "Have You Tried It?" survey (Appendix G) was completed by



participants prior to the Institute and a semester following the Institute. A summary sheet of changes in responses for participants (Appendix M) was made. Although statistical analysis was not used for the survey data due to the size of the teacher sample and intended use of the survey, several observations were made about post-Institute method use and comparison of pre- and post-Institute use.

Some of the methods for which participants perceived increased use or awareness were ones presented during the Institute and must therefore be considered as a source of information influencing the participants to decide to try them. Examples include sentence combining practice, journal writing, and peer evaluation of student writing. This assumption is supported by comments in some second position papers.

Participants tended to increase the use of methods of teaching writing which: (a) improved fluency (for example, journal writing, free writing, and focused free writing); (b) improved attitude toward writing (for example, use of games and moving personal experience into public writing); (c) improved quality of writing (for example, sentence combining practice and generate sentence from key noun and verb); (d) changed the method of evaluating writing (for example, rewriting based on teacher comments to students, rewriting based on student comments to each other, and use of a school wide writing evaluation system); and (e) changed the student-teacher relationship (for example, journal writing and rewriting based on student comments to each other).

Participants tended to decrease the use of methods of teaching writing which: (a) separated writing and mechanics (for example, grammar drill--identify parts of speech); (b) were more commonly known

alternatives (for example, students write and produce a play and writing based on specific literary works); and (c) emphasized form over fluency (for example, outline following rough draft).

#### "Use of Institute Presentation Survey"

Participants were given the "Use of Institute Presentation Survey" (Appendix H) at the end of the fall semester following the Institute. For each of the twenty-seven method presentations used in the statistical analyses, participants were asked to indicate the extent of the use of the methods. The following methods were tried by most participants (at least twelve) either with or without adaptation: journal writing, student assisted revision in groups, and sentence combining practice. These findings were consistent with data and analyses from the post "Have You Tried It?" survey.

Participants who responded as not likely to try a method using a 1 to 3 response on question 10 of the "Evaluation of Teaching Method" survey usually did not try that method. Their decisions at the time of the presentation were predictive of non-use.

The summary sheet of responses to the "Use of Institute Presentation Survey" (Appendix N) shows that participants adapted and tried methods in 102 instances. They tried them without adaptation in 41 instances. This indicated adaptation is much likelier to occur than not, which is consistent with findings in the Rand study (Berman et al., 1975) about mutual adaptation of user and method. The term "innodopter" was created to describe persons engaged in this process since most of the literature reviewed distinguished between adopters and innovators.

In instances where methods were either adapted and tried or tried

without adaptation, for about ninety percent of them, the participants said they will use them again.

### Changes Occurring in Teacher/Consultants

#### Other than Teaching Method Changes

Besides reporting changes in teaching methods, participants reported changes in beliefs about self, others, writing, teaching writing, teaching the teaching of writing, and relationships with students. According to Sarason (1971), student-teacher relationship changes are the most important kind and very rarely are demonstrated. The following statements from interviews and position papers exemplify the kinds of changes reported in their roles of person, teacher, writer, and in-service coordinator:

"...For the last eight...years I have not really bothered to research the latest materials; techniques, methods or even read up on the ever-changing field of teaching composition. ...I have likewise done nothing to encourage creativity in my students but instead have discouraged those who dared to be different by imposing rigid (if not impossible) standards which if violated would result in a low grade! ...I haven't really bothered to do anything different either for myself or my students or both because I suppose I lacked confidence, knowhow, and any encouragement from my colleagues who, for the most part, continually reinforced my negative attitudes and low expectations..." (High School Teacher)

"I have learned that here at the university...we are highly respected people, and I don't think I ever had that feeling before."  
(High School Teacher)

"One of the things that the Writing Project taught me was to trust other people to understand the things that I do in the classroom...I have found out that I am not unique, that I do care...about kids, but so do a lot of other teachers..." (High School Teacher)

"I can see now how my poor attitude toward writing was the result of my poor teaching techniques. I made poor assignments; I made them too long and I made too few. I gave too much instruction in a room that was too tense. I never used pre-writing techniques to prime my students. Because of my poor attitude, my students had a poor attitude." (High School Teacher)

"Probably the most important idea, for me, has been that students need to write far more than the teacher can possibly evaluate. The analogy about the piano teacher who would never think of monitoring student practice sessions will be a part of my credo from now on." (High School Teacher)

"What did I learn? I guess I became aware...that there are different ways of doing the same thing. You can achieve your goal in a lot of different ways." (Elementary Teacher)

"One thing that I learned certainly was that if there is a trend or a kind of meeting of the minds from the group, it is out of a concern for getting students to write and it builds toward an extreme concern for fluency, for getting things on paper...There is probably...disagreement, of course, but most of us are now against any extreme correction until fluency is achieved...(I now feel) a strong opposition to teaching of grammar except when it can be very carefully integrated into the writing itself...Many of these people have to teach it anyway. They do

not have any choice. It is built into their program and...they object... they don't think it is getting them where they need to go." (College Teacher).

"It is sort of a joke in our groups, but my principal suggested that what I could do when we were talking about my responsibility when I come back is to conduct three sessions 45 minutes apiece with teachers...and talk with them about things that I had learned from the Institute. And seeing what has been done and looking over the possibilities in that kind of an arrangement just seemed pretty bleak, and it is just not going anywhere...What I would like to do is conduct ten sessions of 3 hours apiece..." (High School Teacher)

"The teacher must recognize that the relationship between the teacher and the student is the most important factor in motivation and progress and growth." (Junior High Teacher)

"Finally the workshop has given me a fresh approach to teaching composition. I am convinced that student writing will improve because of the intense personal involvement of both teacher and student in these writing activities." (High School Teacher)

As a further indication that the program demanded more than superficial adoption of new gimmicks, one teacher says she is not sure she can alter as much as she now believes she should: "What I have come to realize in the past few weeks is that I don't practice what I preach, and that much of what I've been doing for the many years I've taught writing has probably been harmful to many of my students. Needless to say, this is a very painful recognition to come to, and it is even more distressing to confess that I am not sure that I can change my teaching

sufficiently to help a large number of them. The ways I am accustomed to teaching writing grow out of my personality, my teaching style, and my attitudes toward students and writing that are so deeply ingrained they will be very difficult to alter." (High School Teacher)

Evidence of basic changes in participants' attitudes toward themselves and their jobs came when they responded to questions about the causes of the so-called writing crisis. At the beginning, and again at the end of the program, they were asked why students do not write better than they do. At the beginning of the program teachers blamed every conceivable external factor naming only things over which they have little or no control: (a) too much television watching; (b) a decline in the use of writing in our society; (c) social despair, dislocation, broken families, loss of faith in the future; (d) overcrowded classes, insufficient resources for teaching; and (e) lack of confidence in the schools, lack of parental support.

After the program, teachers shifted their attention to factors over which they did have control: (a) students need more guidance during the writing process; (b) teachers need to know more about what demands have been made on students before, and what they will be asked to do after this year with them; (c) students need practice in writing without grades or criticism, to gain fluency and confidence, and to use writing to discover ideas; (d) students need responses from more, different audiences; (e) students need guided practice in revision; (f) teachers need to have realistic and higher expectations for their students; and (g) teachers need to develop writing assignments carefully, with a clearer idea of what they expect students to do and to learn. Teachers had moved out



of the role of victims attempting to carry out an impossible assignment.

Taking Rokeach's definition of significant change being anything above the belief level of inconsequential change, statements showed that participants had changed methods, authorities, beliefs about teaching writing and about writing as a process, and perceptions of their own experience of writing.

Many personal and professional changes were made by participants and were considered in the development of the theory of teacher change. They became members of a new social group and learned how they acted in a group. Some learned they sometimes need to be different persons and do things they do not like. They learned teachers are respected as people by professors.

As teachers, the participants changed their attitude about student-teacher relationships. They learned others have the same problems they do, and it is acceptable to share and risk with others. They began to look at causes rather than symptoms. They learned there was more to learn and to consider alternatives. They recognized some things they had been doing were counterproductive. They had been doing techniques experts wrote about but had not called them by their proper terminology. New techniques, methods, ideas, materials, theory, and terminology were learned along with an acknowledgement of their own limitations and assumptions they held about student abilities. Their image of the ideal writing teacher was changed. They learned some people are afraid to open up to kids and that a wide gap exists between teachers in the field and some guest professors who offered theory. They experienced what the student feels in writing and learned not to give students assignments

they would not do themselves.

As writers, participants learned that being in a writing group was stimulating, that they need not take their own writing so seriously, and that they were better writers than they thought. They experienced the joy of expressing themselves and learned to view writing as a holistic process, with focus on fluency and non-isolation. They increased their desire to read more about writing.

As in-service coordinators, they learned to stress something differently in their own presentation. They changed their assumptions about teachers being unified and what they needed to do to conduct in-service classes.

#### Institute Situations To Which Teacher/Consultants Responded Favorably and Unfavorably

Teacher statements in papers and interviews indicated that changes occurred because of experience within the Institute, openness to student feedback, personal experience in other situations, and authority mandates. Table 1 lists the Institute situations to which they responded. In addition, theory was generated about the ingredients of effective and ineffective in-service.

Effective in-service consisted of creating the space for participants to (a) form a new social system; (b) experience themselves the processes they teach to students; (c) view and acknowledge themselves as experts; (d) link horizontally with peers; (e) develop theory from experience of the practical, or what works; (f) perceive alternatives from a variety of ideas, materials, and processes; (g) increase knowledge about self in several roles and about the process being taught

Table 1

Institute Situations to Which Participants Responded Favorably and Unfavorably

Favorably	Unfavorably
1. Time, space, and organization	
<ul style="list-style-type: none"> <li>a. Institute staff acted as facilitators</li> <li>b. Horizontal linking of teachers</li> <li>c. Removal from usual environment</li> <li>d. NWP guest speakers brought in</li> </ul>	<ul style="list-style-type: none"> <li>a. Formal speaker lectures</li> <li>b. Long lunch hours</li> <li>c. Lack of time to absorb</li> <li>d. More primary teachers needed</li> <li>e. Lack of communication from Institute staff to districts about recommended in-service prior to district commitment to be involved</li> </ul>
2. Personal relationships	
<ul style="list-style-type: none"> <li>a. Accepting atmosphere</li> <li>b. Personal sharing</li> <li>c. Interaction with professors</li> <li>d. Peer response to teacher role</li> <li>e. Get different view of other grade level teachers</li> <li>f. Teachers had more credibility than experts brought in to the Institute</li> <li>g. Made new friends</li> </ul>	<ul style="list-style-type: none"> <li>a. Presenters who seemed to preach or talk down to the Teacher/Consultants</li> <li>b. Peer response to teacher role</li> <li>c. Backbiting</li> <li>d. Cutting honesty</li> <li>e. Institute staff choosing conference Teacher/Consultant presenters without group selection (names had to be submitted to the conference chair prior to the beginning of the Institute)</li> <li>f. Lack of clearly defined roles as Teacher/Consultants</li> </ul>

Table 1 (continued)

Favorably	Unfavorably
3. Processes	
<ul style="list-style-type: none"> <li>a. Variety of presenters</li> <li>b. Research surveys</li> <li>c. Could adopt most presentations to own grade level</li> <li>d. Writing group experience</li> <li>e. Methods shared</li> <li>f. Experience writing method as student</li> <li>g. Theory integrated with practical</li> <li>h. Question answering and discussion</li> <li>i. Painful self awareness (also listed as unfavorable situation)</li> <li>j. Role of motivation clear through personal experience</li> <li>k. See that it is okay to teach writing in different ways</li> <li>l. Found own position about teaching writing was restrictive</li> <li>m. Identified elements missing in process of teaching writing</li> </ul>	<ul style="list-style-type: none"> <li>a. Some basics not discussed (mechanics, grading)</li> <li>b. Too many activities to do in one day</li> <li>c. No sharing of total group writing</li> <li>d. No helpful criticism given in writing group</li> <li>e. Painful self awareness (also listed as favorable situation)</li> <li>f. Intensity of Institute was draining</li> <li>g. No students to get feedback from</li> <li>h. Not enough reading</li> </ul>

as experts; (d) link horizontally with peers; (e) develop theory from experience of the practical, or what works; (f) perceive alternatives from a variety of ideas, materials, and processes; (g) increase knowledge about self in several roles and about the process being taught (writing); (h) know individuals from groups toward whom they hold attitudes (writing experts, other grade level teachers, students, peers, university staff); (i) adopt, adapt, and reject new methods; (j) change perception about the writing process, the ideal teacher, district in-service, the problems confronting the teacher of writing, goals for students, their teaching situation, authorities, their own teaching style, their own abilities and limitations; (k) assume new roles as in-service coordinators for their districts; (l) engage in problem-solving discussion; (m) risk themselves by offering personal writing and teaching methods; (n) clarify in writing problems they perceive and their own position on teaching writing; and (o) feel an ownership for the group and its evolution.

Ineffective in-service experiences consisted of (a) having guest speakers lecture to participants; (b) organizing too much time between Institute morning and afternoon sessions (due to scheduling of classes of Institute staff); (c) lack of time to absorb all that was happening; (d) lack of primary teachers; (e) lack of discussion of some basic topics of practical concern (grading, evaluation); (f) degree of participation in personal writing and group processes; (g) lack of clearly defined roles as teachers of writing, writers, and district in-service coordinators; and (h) change of perception by some Teacher/Consultants as to the method of selecting Teacher/Consultants.

### Elements in the Process of Teacher Change

A model of teacher change was developed to show the setting or context within which change exists (Figure 1) and the stages of change which occur over time within that context (Figure 2). Several assumptions were made about generating a theory of the change process for innodopters: (a) the change process occurs within a setting; (b) the change process includes stages; and (c) the stages and setting can be described separately yet in actuality do not exist separately.

The model developed here was consistent with Frymier's (1969) observations that many forces affect change in education. He placed the responsibility for significant change on educators to change themselves. He also commented about the manipulation of external variables apart from the teacher as not getting at the real problem of change.

#### Setting for Change

Assumptions accompany Figure 1: (a) conditions giving rise to change are interrelated, and (b) conditions in the environment are part of the process of change.

Figure 1 diagrammatically shows the setting for the process of change which can occur for any and all of the elements shown. The setting consists of the individual perceiver composed of personal conditions existing within a universe of alternatives. The individual perceiver was a member of various social systems and was affected by external conditions, relationships of elements within the context of change, and forces between all of these working for and against change.

Universe of Alternatives. The existence of alternatives allows change to occur. Change implies alternatives, and alternatives exist



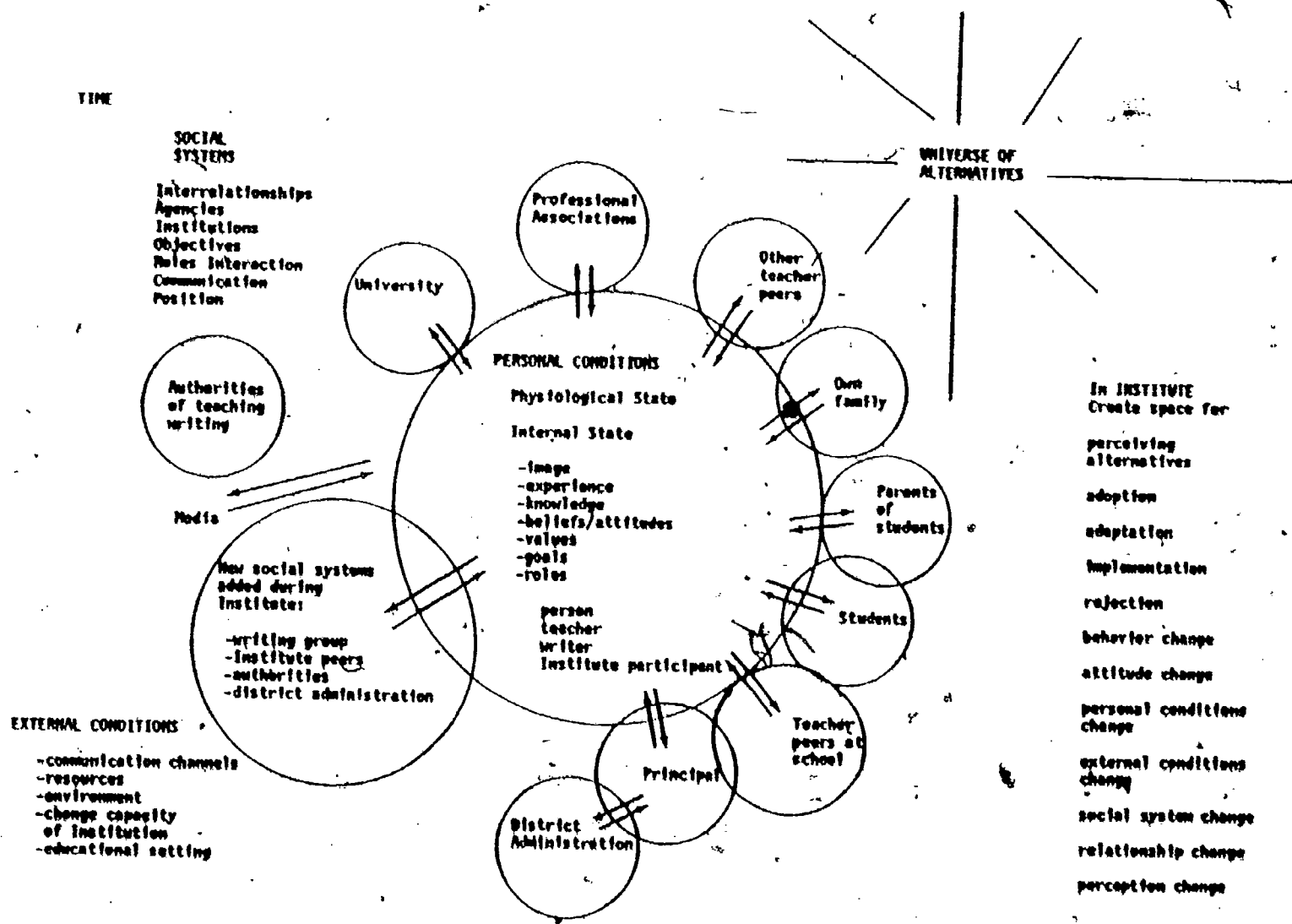


Figure 1

### Setting for the Model of the Process of Teacher Change:

The Context of Change Is an Individual Perceiver in a Field of Social Systems, Time, External Conditions, Universe of Alternatives, and the Forces and Relationships Among All of These.

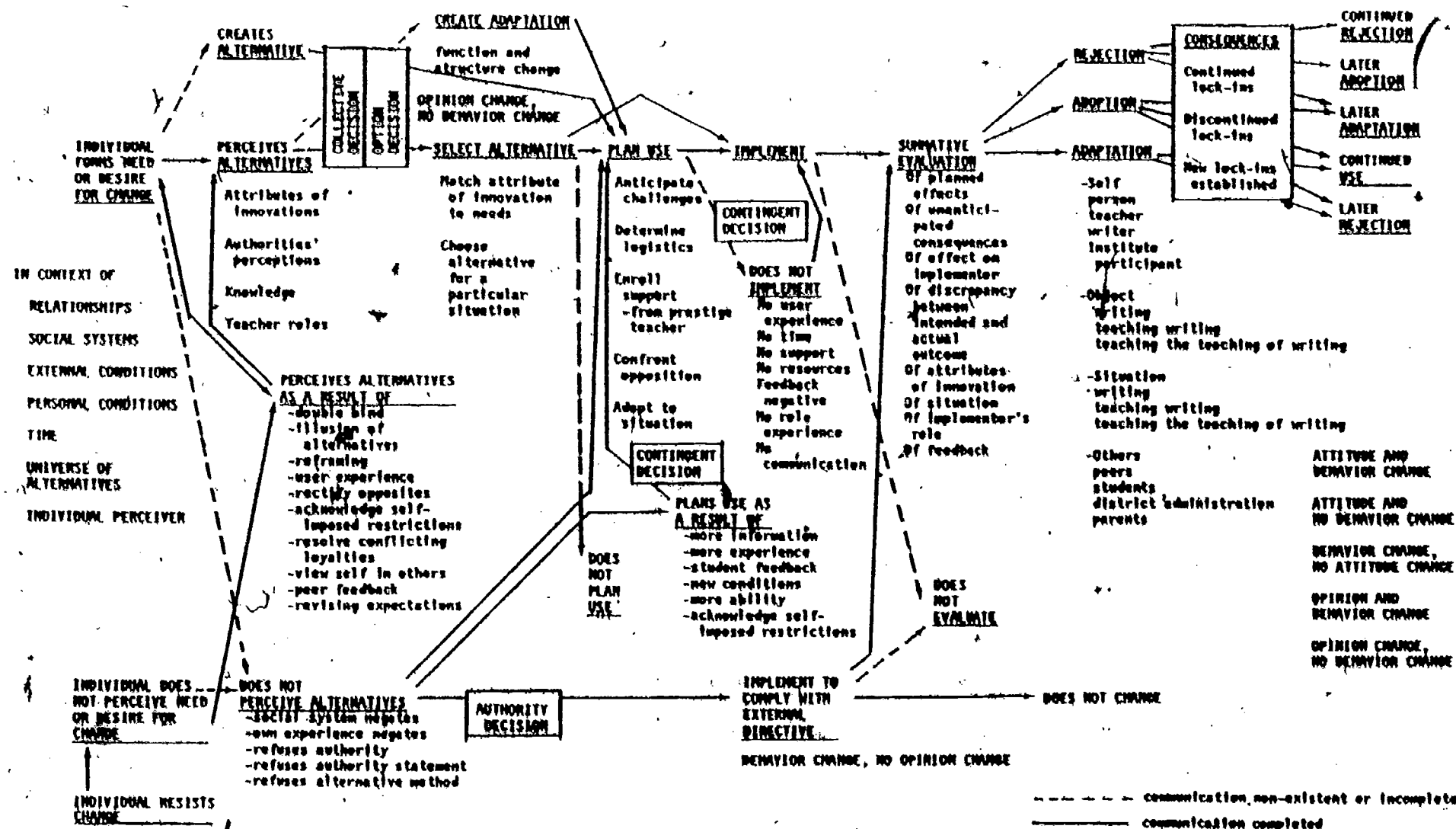


Figure 2

Stages Within the Setting (Figure 1) for the Model of the Process of Teacher Change: Choices Within Continuum Stages of Change, with any Choice Being a Possible Beginning, Middle, or End Point of the Process

whether or not they are perceived. Sarason (1971) said that any theory of the change process must confront and deal with the practice that there are alternatives. Participants in this study observed and created alternatives.

Social Systems. The individual exists as a member or communicator with various social systems: professional organizations, teacher peers, at their schools, other teacher peers, students, parents, university staff, experts in teaching writing, their school administrators, their own family, district administrators, the media, and the community at large.

Personal Conditions. At the center of the universe of alternatives and the social systems was the individual perceiver with both internal and physiological states.

External Conditions. Acting upon all of these were external conditions, such as resources and the environment. Material resources and time were identified through quantitative analyses as factors influencing a teacher's decision to try a method; other external factors were identified in interview and paper statements.

Relationships. Positive and negative forces existed within and between all of these, and the element of time made possible a change in state of being.

#### Stages of Change (Figure 2)

A review of the literature located (a) stages of change, innovation, adoption, and dissemination and (b) influences affecting progress from one stage to the next.

Stages from the literature were reviewed to find ones that

participants in the study had experienced and identified from their point of view. Theories of change in the literature usually allowed for only one set of decisions on a continuum--that of adoption, adaptation, or rejection of an innovation. Yet decisions to do or not to do something existed at every point in the process. It was therefore assumed that a theory of change should provide constant choice along a continuum between a stage and a "not-stage." A model was constructed to identify (a) stages as continuums of choices, (b) types of change, (c) forces allowing or inhibiting change, and (d) relationships of all of these.

The stages (Figure 2) are influenced by everything within the setting (Figure 1) as perceived by the individual. The communication of these influences on the individual is shown by solid lines. Broken lines indicate communication may not have existed or been completed. The individual may begin and/or end his or her experience with any of the stages in this model.

Stage One: Need and/or Opportunity for Change. The first step was to find where the process of change began for the participants in this study. Data, material, and literature indicated change began with a perceived need and/or opportunity for change. Problems confronting the teacher of writing as stated in papers and interviews were needs for change. While all participants indicated some need for change, there were occasions when they did not perceive a need for some types of change or they actively resisted change.

Stage Two: Alternatives Perceived, Created, or Not Perceived.

As participants' comments exemplified, alternatives could be created or

they could perceive existing alternatives, which could include consideration of the characteristics or attributes of an innovation, of the perceptions of authorities about methods, of new knowledge, or of different teacher roles available to them.

Though some alternatives were not perceived as such, others were a result of some favorable Institute experiences. Several ways alternatives were perceived were noticed in a review of literature: reframing (Watzlawick et al., 1974); paradoxes such as double bind, illusion of alternatives, and rectifying opposites (Mann, 1965); and resolving conflicting loyalties (Lippitt et al., 1958).

Stage Three: Alternatives Selected or Adapted. If alternatives are perceived, the innodopter may either select an alternative to fit needs and situation or may create an adaptation. The decisions to select or create an alternative may be either a decision made as an individual (option decision) or as a part of a group (collective decision). If an adaptation is created, a function and structure change can occur.

Many of the change models reviewed in the literature assumed an expert creating an innovation to a fail safe level, then giving it to the teachers. In only a couple of the perspectives about the change process was consideration of alternatives an obvious part. Many definitions of innovation assume something new as a replacement for something else.

Stage Four: Planned Use, Lack of Planned Use, or Delayed Planned Use. The latter choice in this stage occurs as a contingent decision depending on more information or more experience with the method,

student feedback showing its appropriateness, new conditions existing, more ability existing in using the method, or acknowledgement of self-imposed restrictions preventing its use.

When the individual plans use of a method, several actions can be involved: anticipation of challenges; determination of logistics, enrollment of support, possibly from a prestigious teacher; confrontation of opposition; and adaptation of the method to the situation in which it will occur. The latter indicates movement could reverse toward the third stage choice of creating an adaptation.

Stage Five: Implementation or No Implementation. Implementation could result in two ways: through choice to do so or through compliance with an external directive. Reasons for not implementing were contingent decisions resulting from lack of resources (including materials or time); lack of support, negative feedback about the method, lack of role experience or user experience with the method, or lack of communication about the method. With changes in any of these, implementation could result.

Stage Six: Summative Evaluation or No Evaluation. Comments by participants indicated summative evaluation could be about any of the following considerations: (a) planned effects on students, (b) unanticipated consequences, (c) effect on implementor, (d) discrepancy between intended and actual outcomes, (e) attributes of the innovation, (f) the situation, (g) implementor's role, and (h) feedback. In some cases, no evaluation was made of a method used.

Participants negatively evaluated use of district competency testing to comply with an external directive. This suggested that evaluation



with subsequent adaptation, adoption, or rejection could occur as a result of implementation to comply with an external directive.

Stage Seven: Rejection, Adoption, Adaptation. A decision to adopt, adapt, or reject follows evaluation. These decisions refer to method, self and others and to the object and situation of writing, teaching writing, and teaching the teaching of writing. As Rokeach (1976) said, behavior changes are a function of two interacting attitudes about the situation and about the object.

The possible resulting outcomes of this stage are: (a) attitude change and behavior change, (b) attitude change and no behavior change, (c) behavior change and no attitude change, (d) opinion change and behavior change, and (e) opinion change and no behavior change.

When the assumptions of the model are considered, it becomes clearer why the process of change is not adequately understood and why describing change is so difficult--because there are so many types of change (attitudes, values, behaviors, opinions, knowledge) occurring for so many topics (writing, teaching writing, teaching the teaching of writing) for so many roles of the individual (writer, teacher, person, Institute participant).

Once the stages had been identified from the perspective of the individual Teacher's experience in the process, Figure 3 was developed to describe other theories of change from the same perspective. It shows stages held in common by other researchers and theorists, different terms used to describe these stages, and the relationship of the model of change for innodopters to other theories or models. A review of Figure 3 and data and material in this study indicated the change process does

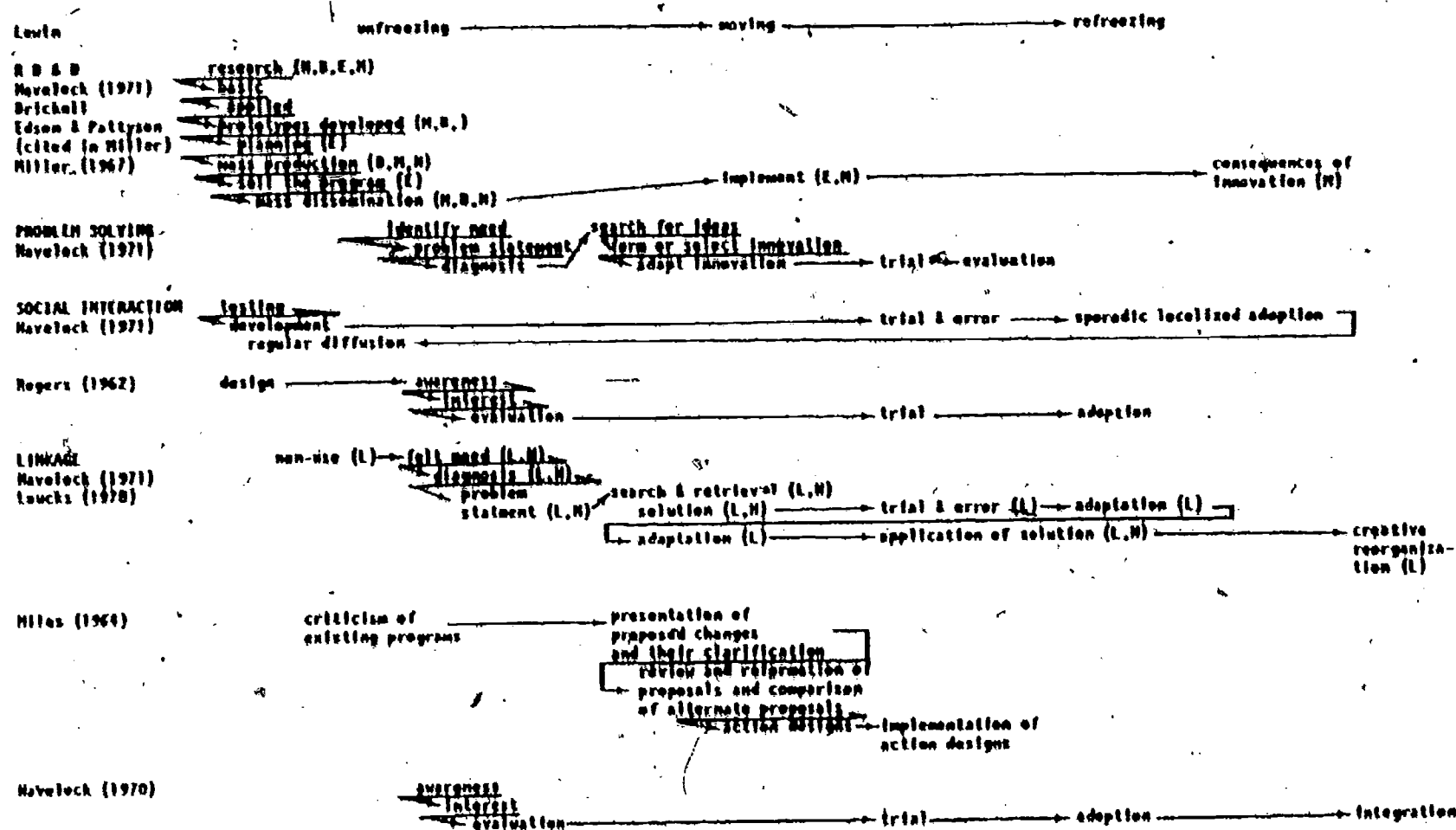
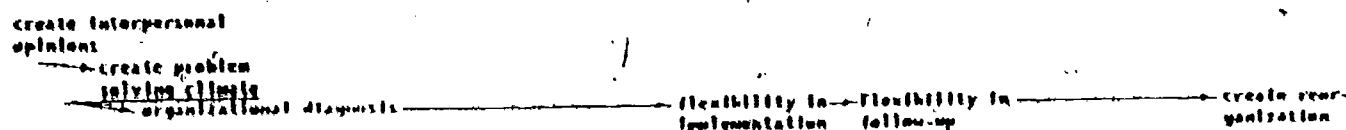


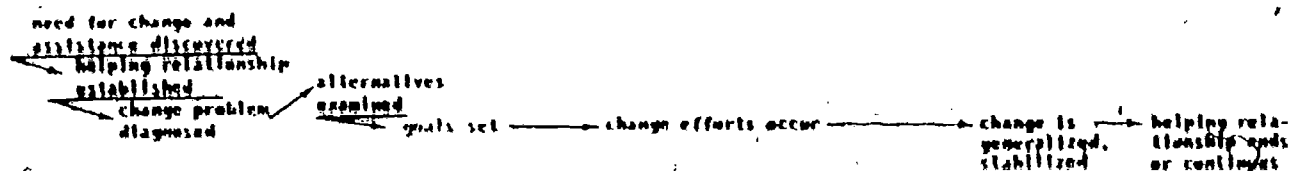
Figure 3

Stages of Change, Innovation, Adoption, Implementation, and Dissemination from the Literature  
Displayed as Stages in the Process of Teacher Change Experienced Through Time

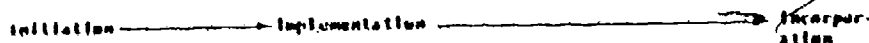
Shepard & Blake  
(Miller, 1967)



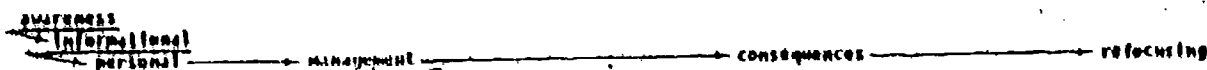
PLANNED CHANGE  
Lippitt (1950)



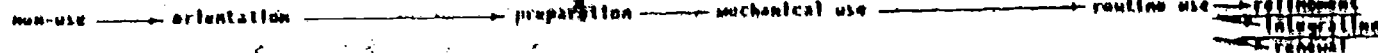
Herman et al. (1975)



STAGES OF CONCERN  
Hall (1973)



LEVELS OF USE  
(categories within all levels:  
knowledge  
acquire information  
sharing  
assessing  
planning  
status reporting  
performing)



SOCIAL CHANGE  
Zaltman & Lippitt (1971)

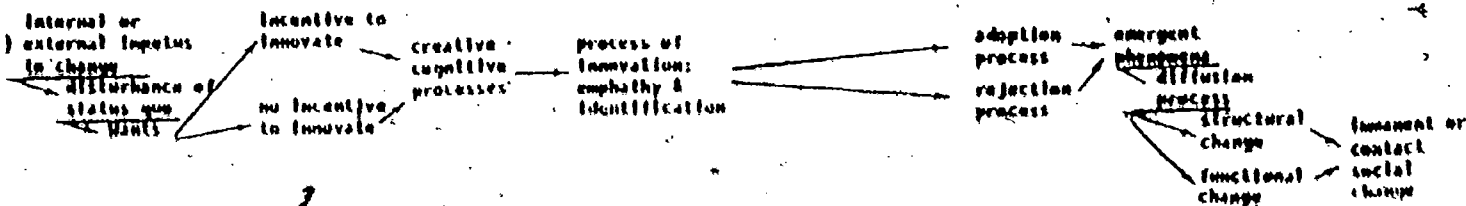


Figure 3 (continued)

INNOVATION  
DECISION PROCESS  
Rogers & Shoemaker  
(1971)

PROCESS OF  
TEACHER CHANGE  
Thompson

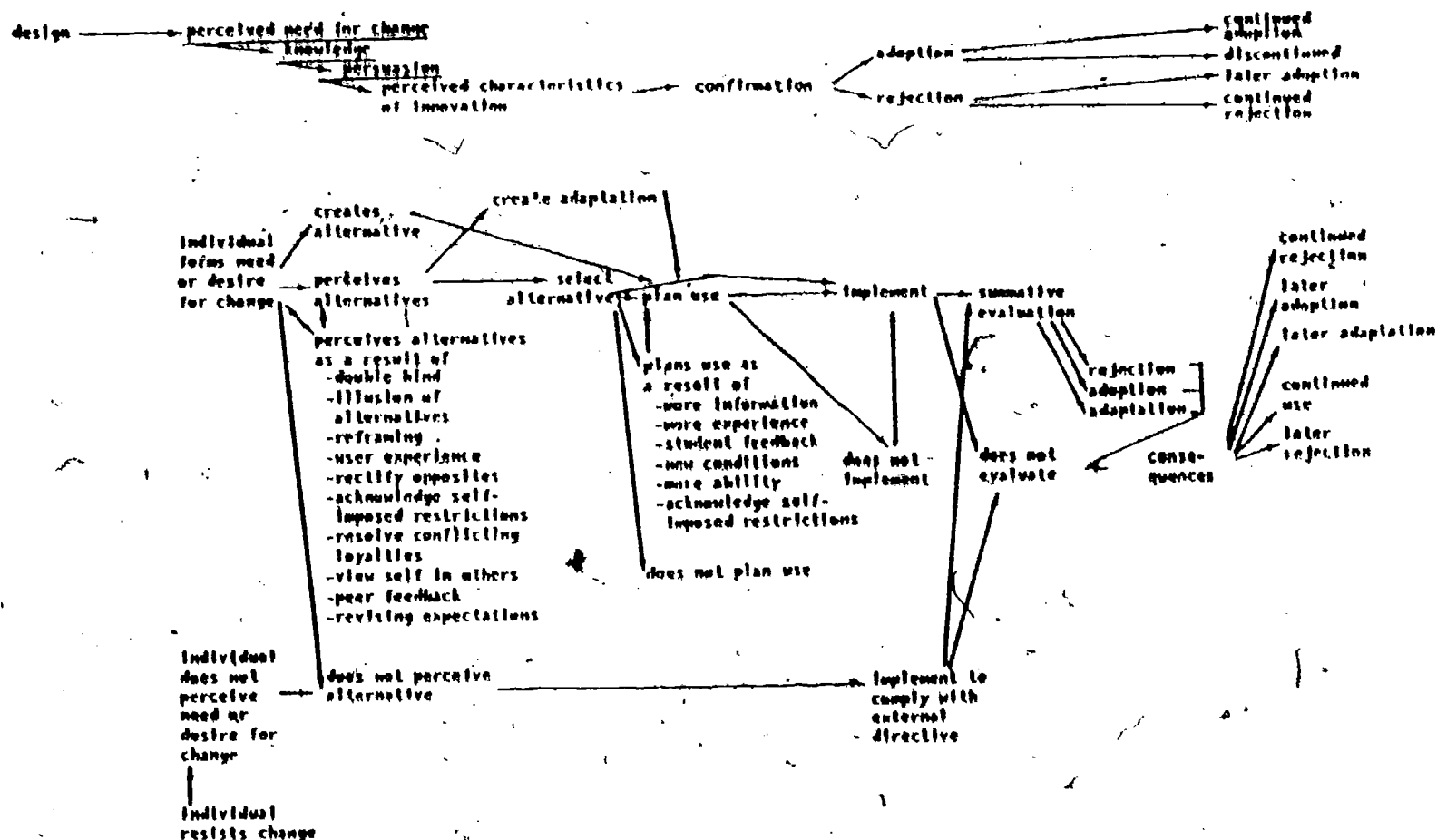


Figure 3 (continued)

not stop with an "adoption-adaptation-rejection" choice.

Stage Eight. Consequences of Use or Non-Use. Another stage, consequences of use or non-use, was of interest in light of Goodlad's (1979) seven propositions about school improvement which called for a reconstruction of curriculum through which significant change could occur. Institute participants indicated that they continued some lock-ins, discontinued other lock-ins, and established new lock-ins. They also agreed that writing was a process all teachers could teach, if they could and would. Whether or not the changes brought about through the Institute experience assist in curriculum reconstruction remains to be seen.

Stage Nine: Continued Rejection, Later Adoption, Later Adaptation, Continued Use, and Continued Rejection. The final stage is consistent with choices described by Rogers and Shoemaker (1971) with the exception of the choice of "later adaptation." The choices are appropriate for single methods or combinations of methods. One outcome of the Institute was dissemination of many different innovations rather than the spread of particular ones as in the National Diffusion Network. Fullan and Pomfret (1977) said this type of change is possible but unlikely. Perhaps the concept of the process of teacher change for the innadopter who synthesizes multiple innovations according to his or her own situation, beliefs, knowledge, and goals makes it a greater possibility.

#### Contributions of the Model and the Study

Several contributions to practitioners and to researchers were made through this study.

1. The model of teacher change may assist in planning change by describing instances requiring communication for completion, decision-making points, and techniques and experiences that allow individuals to change whether they do or do not have a need for change or do or do not perceive alternatives. The research identifies the types of changes that are possible.

2. A compilation was made of diverse theories of change into a cogent theory of teacher change from the perception and experience of the individual teacher.

3. Factors that influence teachers' decisions to try or not try a teaching method were identified. A "Revised Evaluation of Teaching Method Survey" (Appendix L) was developed to be used with future Teacher/Consultants to determine the degree to which the factors are influential.

4. The term "innodopter" was created by the researcher to describe persons engaged in the process of mutual adaptation of self and methods since most of the literature reviewed distinguished between adopters and innovators.

5. The evaluation of a National Writing Project Institute occurred as a by-product of the research.

6. The experience and description of the grounded theory research process, a relatively unused method in educational research, was reported as a chronological narrative (██████████, 1979). The method encourages the use of both quantitative data and qualitative material, as different forms of information on the same subject, which will verify and generate theory.

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# Appendix A

## Personal Data about Participants Before the Institute Began

Teacher*	Sex	Age	Highest Degree	Total Years of Teaching Experience	GRADE LEVELS TAUGHT		No. Prof. Organizations	Journals Read Monthly	Current Av. No. st./class
					Total	Current			
TE1	F	35	MA	5	2,6,7	resource	3	5	27
TE2	F	32	MA	6	3-6	6	0	2	22
TE3	F	32	BS	8	4-6	6	3	3	25
TE4	F	30	BA	4	3	3	3	5	27
TJ5	F	36	BA	2	7-8	8	6	4	29
TJ6	F	24	BA	3	8-9	8-9	4	3	32
TJ7	F	34	MA	9	4,6-8	7	3	6	30
TJ8	F	39	BA	9	7-12	8	4	2	31
TH9	F	39	MA	10	9-12	9-12	8	3	28
TH10	F	36	MA	10	7-12	10-12	4	5	30
TH11	M	25	BA	3	9-10	9-10	4	3	30
TH12	F	41	BA	3	9-12	9-12	5	3	30
TH13	M	36	MS	7	9,11,12	9,11	0	0	20
TH14	F	37	MA	12	9-12	9-12	4	0	15
TH15	F	32	MA	10	9-12	10-11	5	4	32
TC16	M	56	PhD	19	9-10,13-16	13-16	4	4	25

\*E - Elementary  
J - Junior High  
H - High School  
C - College

## Appendix B

## Chronological Description of Research Procedures and Timetable

<u>Start Date</u>	<u>End Date</u>	<u>Procedure</u>
4/30/78	5/30/78	Meet with Institute staff to coordinate data collection plans during in-service
5/5/78	5/18/78	Pilot instruments and interview questions and modify as needed Request participation of Teacher/Consultants in study by letter and phone follow up
5/23/78	6/10/78	Conduct and tape record first interview and give "Have You Tried It?" survey
5/24/78	6/15/78	Transcribe tapes and code statements; begin theory generation and continue literature review
6/5/78	7/7/78	Collect daily "Evaluation of Teaching Method" surveys and summarize data and material by method and by teacher; continue theory generation and literature review
7/3/78	7/20/78	Arrange, conduct, and tape record second interview
7/10/78	7/30/78	Transcribe tapes and code statements
8/1/78	10/1/78	Conduct computer analyses of "Evaluation of Teaching Method" survey data
8/1/78	3/10/79	Generate questions and theory
1/6/79	1/10/79	Write letter to participants to arrange third interview and have them complete post "Have You Tried It?" survey
1/15/79	2/24/79	Arrange, conduct, and tape record third interview; give "Use of Institute Presentation Survey"
1/20/79	2/27/79	Transcribe tapes and code statements
1/25/79	3/18/79	Analyze data and material and related literature; generate substantive theory and hypotheses

# Appendix C

## Quantitative Data Collection and Timetable

	Date Presented	Teaching Level of Presenter	Topic	T <sub>E1</sub>	T <sub>E2</sub>	T <sub>E3</sub>	T <sub>E4</sub>	T <sub>J6</sub>	T <sub>J8</sub>	T <sub>J7</sub>	T <sub>J8</sub>	T <sub>N9</sub>	T <sub>N10</sub>	T <sub>N11</sub>	T <sub>N12</sub>	T <sub>N13</sub>	T <sub>N14</sub>	T <sub>N15</sub>	T <sub>C16</sub>
N <sub>1</sub>	6/7	H	Using Computers	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
N <sub>2</sub>	6/8	J	Advertising	X	X	X	X	X	0	X	X	X	(11)	0	X	X	X	X	X
N <sub>3</sub>	6/8	E	Using the G.P.	X	(6)	X	0	X	X	X	(8)	X	X	X	X	X	X	X	X
N <sub>4</sub>	6/12	H	Journal Writing	X	X	X	X	X	X	X	X	X	X	X	X	0	X	X	X
N <sub>5</sub>	6/12	H	Poetry Writing	X	X	X	X	X	X	X	X	X	(12)	X	X	X	X	X	X
N <sub>6</sub>	6/13	E	Pre-writing & Motivation	0	X	0	X	(3)	X	X	X	X	X	X	X	X	X	X	X
N <sub>7</sub>	6/13	H	Editing	X	X	0	X	X	X	X	X	X	(11)	X	X	0	X	X	X
N <sub>8</sub>	6/14	E	Maths	X	X	0	X	X	X	X	X	X	X	X	X	X	X	X	X
N <sub>9</sub>	6/16	H	Structure & Creativity	(11)	X	X	X	X	X	X	X	X	0	X	X	X	X	X	X
N <sub>10</sub>	6/19	H	Paragraph	X	X	X	X	X	X	X	X	X	(11)	0	X	X	0	X	X
N <sub>11</sub>	6/19	E	Develop Oral Language into Writing	X	0	X	X	X	X	X	X	X	(11)	X	X	X	0	X	X
N <sub>12</sub>	6/20	G	Paragraph Development	X	X	X	X	X	X	X	X	X	(11)	X	X	X	X	X	0
N <sub>13</sub>	6/20	J	An Analysis of Humor	X	(2,8)	X	X	X	X	X	X	X	(11)	X	X	X	X	X	X
N <sub>14</sub>	6/21	H	Short Story	X	X	X	X	X	X	X	X	X	(11)	X	X	X	X	X	X
N <sub>15</sub>	6/21	J	Motivation	X	X	X	X	X	X	0	X	X	(11)	X	X	X	X	X	X
N <sub>16</sub>	6/25	J	Poetry & Imagination	X	X	X	X	X	0	X	X	X	(11)	X	X	X	X	X	X
N <sub>17</sub>	6/27	H	Narrative Writing	X	X	X	X	X	X	X	0	X	(11)	X	X	X	X	X	X
N <sub>18</sub>	6/28	E	Music & Language	X	0	X	X	X	X	X	X	X	(11)	X	X	X	X	X	X
N <sub>19</sub>	6/28	H	Transforming Creative Writing into Formal Writing Using Slides	X	0	X	X	X	X	X	X	X	(11)	0	X	X	X	X	X
N <sub>20</sub>	6/29	H	Evaluation	X	X	X	X	X	X	X	X	X	(11)	X	X	X	X	0	X
N <sub>21</sub>	6/29	H	Word Cards	X	X	X	X	X	X	X	X	X	0	X	X	X	X	X	X
N <sub>22</sub>	7/13	H	Distorted Testing/ Evaluation	0	0	X	X	X	X	(11)	X	X	(11)	X	X	0	X	X	0
N <sub>23</sub>	7/8	H	Creating an Artificial Language	X	X	X	X	X	X	X	X	X	(11)	X	0	X	X	X	X
N <sub>24</sub>	7/8	G	Student Assisted Revision	X	(8)	X	X	X	X	X	X	X	(11)	X	X	X	X	X	X
N <sub>25</sub>	7/8	J	Integration of Life & Literature Skills	X	X	X	X	0	X	X	X	X	(11)	X	X	X	X	X	X
N <sub>26</sub>	6/8	G	Student Centered Learning	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
N <sub>27</sub>	6/8	G	Students Combining	X	X	(11)	X	(8)	X	X	X	X	X	X	X	X	X	X	X
			Pre-"Have You Tried It?" Survey (S <sub>1</sub> )	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
			Post-"Have You Tried It?" Survey (S <sub>2</sub> )	X	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X
			Use of Institute Presentation Survey (S <sub>3</sub> )	X	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X

X = Data Collected  
 X<sub>0</sub> = Data Collected but with incomplete items (incomplete item number given in parentheses); not useable in quantitative analysis.  
 0 = Data not collected

Teaching Level: C = College; E = Elementary; H = High School;  
 J = Junior High; G = Guest Speaker

# Appendix D

## Qualitative Material Collection and Timetable

	T <sub>E1</sub>	T <sub>E2</sub>	T <sub>E3</sub>	T <sub>E4</sub>	T <sub>J5</sub>	T <sub>J6</sub>	T <sub>J7</sub>	T <sub>J8</sub>	T <sub>J9</sub>	T <sub>H10</sub>	T <sub>H11</sub>	T <sub>H12</sub>	T <sub>H13</sub>	T <sub>H14</sub>	T <sub>H15</sub>	T <sub>C16</sub>
Application Paper (P <sub>1</sub> )	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1st Position Paper (P <sub>2</sub> )	X	X	X	X	X	X	X	X	X	X	X	X	X*	X	X	X
2nd Position Paper (P <sub>3</sub> )	X	X**	X	X	X	X	X	X	X	X**	X	X	X**	X	X	X
Written Contribution (P <sub>4</sub> )	0	X	0	X	X	0	X	0	X	X	0	0	0	0	X	0
1st Interview (I <sub>1</sub> )	6/1	5/23	5/31	5/22	5/25	6/1	5/22	5/23	5/20	6/1	5/26	5/20	6/9	5/31	5/31	5/26
2nd Interview (I <sub>2</sub> )	7/16	7/7	7/13	7/17	7/19	7/13	7/17	7/8	7/12	7/21	7/16	7/12	7/18	7/11	7/18	7/7
3rd Interview (I <sub>3</sub> )	2/27	2/5	2/1	2/3	2/23	1/27	2/18	2/6	1/27	2/22	1/27	3/6	1/29	1/26	2/5	2/5

- X = Data Collected
- 0 = Assignment not completed
- \* = P<sub>1</sub> resubmitted as P<sub>2</sub>
- \*\* = P<sub>2</sub> resubmitted as P<sub>3</sub>



## Appendix E

## Interview Questions Asked of Participants

## First Interview

Questions created prior to Institute

1. You will begin participating in the Greater [REDACTED] Area Writing Project within a short while. Up to this point what has been important for your students to do to improve their writing abilities?
2. What have you done to help students accomplish these skills?
3. What alternatives did you consider to these instructional behaviors?
4. What were the consequences for each of these alternatives?
5. What has motivated you to teach writing the way you have been teaching?
6. What factors have influenced the way you have carried out your writing instruction?
7. What do you expect to learn in the workshop?
8. How would you appraise your own writing ability?
9. What will be expected of you when you return to your position after participating in the in-service?
10. What is your ideal image of a writing teacher for the grade level you teach?
11. Do you think you will teach writing differently next semester than you have this past semester? Do you usually change the way you teach writing from semester to semester? If so, what causes you to change?
12. Do you have any plans now for changing your instruction of writing next semester? If so, describe them.
13. Have you run into any difficulties with students in the ways you have been teaching writing?
14. What was your most successful writing activity this past semester for helping students improve their quality of writing?
15. What writing activity did the students most enjoy during the past semester?

### Appendix E (continued)

16. What learning outcomes do you expect students to accomplish in your classroom? Why do you place importance on them? (If subject responds with broad learning goals, ask the following: What are some specific outcomes these involve? If subject responds with specific instructional goals, ask the following: What general outcome do all these seem to point to?)

#### Additional questions created during research or in interview

17. Are there any teaching methods you use only occasionally because the students' involvement in learning begins to fade?
18. What will happen as a result of making the changes you now plan to make next semester? (An extension of question 12).

### Second Interview

#### Questions created prior to Institute

1. What did you learn during the past five weeks in the writing workshop?
2. You just told me what you learned in the in-service. What do you think learning is?
3. In light of your definition, is there anything else you learned that you did not mention previously?
4. Now that you have participated in the in-service, what do you plan to do in your classroom to help students learn how to write?
5. What will you do now that you would not do before taking the in-service?
6. How do you think you will go about planning your writing instructional behaviors next semester?
7. What led you to make these decisions?
8. Are there any alternatives you would consider?
9. What are the consequences of each of these alternatives?
10. What learning outcomes do you expect students to accomplish in your classroom during the fall semester?
11. What problems do you expect to encounter? How do you hope to overcome them?

## Appendix E (continued)

12. What instructional behaviors do you plan to continue using that you have used before?
13. What instructional behaviors do you plan to eliminate that you have used before?
14. What would have to be different before you would use this instructional behavior? (Give each subject one they rated "not likely" to use during in-service surveys.)

Additional questions created during research or in interview

15. What was beneficial about the Institute? What was least productive?
16. What things could the Institute do to make it worthwhile to keep going with it this summer a few more weeks?
17. Do you believe you perceive teaching completely different from secondary/elementary teachers?
18. Do you believe the Institute was directed more toward any grade level of teacher?
19. What responsibilities would you place on elementary teachers for teaching writing? on secondary teachers? Did the Institute influence you on these in any ways?
20. Was your presentation a technique of primary importance in improving student writing abilities?
21. How do you overcome transfer of grades for mechanics to being perceived as a personal put down?
22. You mentioned particular problems of . . . . Do you avoid those areas or try to put them into proper perspective?
23. Is student self image tied to mechanics?
24. Do you use individual conferences for rewriting or for evaluation? Do students actually have a chance to turn in a new draft after you finish?
25. Do you expect students who have once passed a minimal competency test item to be able to always apply that knowledge? Do you expect not to have to review mechanics at the beginning of the year?
26. Should writing mechanics be taught separately from the writing experience.

## Appendix E (continued)

27. What was your experience writing as a student?
28. What do you now know you will do differently next year?
29. How would you appraise your own writing ability?
30. Describe the ideal teacher of writing.
31. What is the answer to immediate feedback to student writing?
32. Have you marked those that are likely to be complex correctly?  
(in reference to the "Evaluation of Teaching Method" surveys)
33. Why do you use with your students the technique you presented in the Institute? Would you allow me to come observe your class in session sometime next semester?
34. How far and what grade should you let them go without being concerned with mechanics and form?
35. Which presentations were unified approaches to teaching communication arts?
36. What plans do you have for setting up in-service in your district?
37. Do you know of any way your participation in this research study has influenced you or made you aware of something you probably would not have been aware of otherwise?

Third InterviewQuestions created prior to Institute

1. What are your satisfactions with teaching writing this semester?
2. What are your dissatisfactions with teaching writing this semester?
3. What feedback have your students given you about writing experiences during the past semester?
4. What is your response to their feedback?
5. What has helped you carry out your plans for writing instruction this semester?
6. What has discouraged or frustrated you this semester?
7. Have any changes taken place in your expectations of students writing outcomes?

## Appendix E (continued)

8. What have you learned about teaching writing this semester?
9. What are you doing to share your experiences from the in-service and this semester with your peers?
10. How are your students' writing abilities being evaluated?
11. If someone were to observe you, what would you be concerned about them viewing?
12. Do you find yourself using any instructional behaviors you never used with students before? with peers before?
13. What problems have you had with students and peers this past semester?
14. What high points have you had with students and peers this past semester?
15. What is your ideal image of a writing teacher for the grade level you teach?
16. What learning outcomes do you expect students to accomplish in your class? Why do you place importance on them?

Additional questions created during research or in interview

17. What are some things that prevented you from trying some methods you wanted to try?
18. Have you used some of the methods from the Institute together?
19. Did you give students a list of goals at the beginning of the year?
20. How much are you writing?
21. How would you describe your own writing ability?
22. Has your district made any policies affecting the teaching or evaluation of writing during the past semester?
23. Have some things you did not anticipate occurred this semester?
24. What are your strengths as a teacher of writing?
25. How supportive have your principal and district administration been?
26. Describe a good day you had teaching this semester?

## Appendix E (continued)

27. Why don't you plan to use this method again?
28. What do you observe students doing when you use this method?  
(Choose one rated highly observable.)
29. What is it important for your students to do to improve their writing abilities?
30. What plans do you have for changing your teaching of writing next semester?
31. Who developed the method you presented in the Institute?
32. What methods were included in your method/presentation?
33. What was "it" in your presentation?
34. Now that you have participated in the Institute, what would you like to see happen?
35. Have you observed any changes in yourself this semester?
36. What did you intend to do this semester that you did not do?
37. What alternatives have you considered?



## Appendix, F

"Evaluation of Teaching Method" Survey  
(Revised In-Service Evaluation Survey)

EVALUATION OF TEACHING METHOD: \_\_\_\_\_

DATE \_\_\_\_\_

CODE NUMBER \_\_\_\_\_

Please answer each question by placing an "X" in the most appropriate box.

	VERY				NOT VERY
	5	4	3	2	1
1. How appropriate is this method to use with students at your grade level?		X			
2. How likely would students be to improve their quality of writing if this method is used?					X
3. How likely would students be to improve their attitude toward writing if this method is used?					X
4. How easy would this method be for teachers to prepare?					
5. How easy would this method be for teachers to use in the classroom?				X	
6. How observable would the writing improvement be if students used this method?		X			
7. How compatible would this method be with others you currently use?					
8. How complex would this method be for students to use in your classroom?					
9. How easily can this method be used with existing resources?		X			
10. How likely are you to try this method in your classroom?					
11. How likely are other participants in this Institute to try this method?					
12. How new to you was the information presented today about this method?					X
13. Something new that I learned during this presentation is					
14. I might have made this presentation differently by					



## Appendix G

HAVE YOU TRIED IT?

CODE NUMBER \_\_\_\_\_

For each of the teaching methods for writing listed below, place an "X" in the column that tells whether you have or have not heard of it. If you have heard of it, describe how familiar you are with it by placing an "X" in the appropriate boxes of the following two sets of choices.

1. Use pictures to stimulate writing.
2. Use music to stimulate writing.
3. Use of games.
4. Role playing to develop characters
5. Peer evaluation of student writing
6. Journal writing
7. Sentence combining practice
8. Use of student tutors
9. Sentence construction practice--  
simple, complex, compound
10. Use movies to stimulate writing
11. Talk about subject before writing
12. Reading a variety of literature
13. Large group writing
14. Class publication of writing
15. Sentence construction practice--  
adding phrases and clauses

	Have heard of it		Have not tried it	Have considered trying it but did not	Have tried it but do not like it	Use it		Many teachers in my school use it	
	Yes	No				Occasionally	Regularly	Yes	No
1. Use pictures to stimulate writing.									
2. Use music to stimulate writing.									
3. Use of games.									
4. Role playing to develop characters									
5. Peer evaluation of student writing									
6. Journal writing									
7. Sentence combining practice									
8. Use of student tutors									
9. Sentence construction practice-- simple, complex, compound									
10. Use movies to stimulate writing									
11. Talk about subject before writing									
12. Reading a variety of literature									
13. Large group writing									
14. Class publication of writing									
15. Sentence construction practice-- adding phrases and clauses									

## Appendix G (continued)

[illegible]

## Appendix G (continued)

[illegible]

## Appendix H

## Use of Institute Presentation Survey

USE OF INSTITUTE PRESENTATION SURVEY

CODE NUMBER \_\_\_\_\_

Please indicate to what extent you used something from the following Institute presentations during the past semester.

	I have not decided to try it	I am interested in using it but have not	I plan to use it	I adapted it and tried it	I tried it without adapting it	I will use it again	"It" is		Process
							Idea	Material	
1. Using Computers*									
2. Advertising*									
3. Using the CB*									
4. Journal Writing*									
5. Poetry Writing*									
6. Prewriting & Motivation*									
7. Gaming*									
8. haiku*									
9. Structure & Creativity*									
10. Paragraph Pre-Writing*									
11. Developing Oral Language*									
12. Paragraph Development*									
13. An Analysis of Humor*									
14. Short Story*									
15. Motivation*									
16. Poetry Imitation*									
17. Narrative Writing*									
18. Music & Language*									
19. Transforming Creative Writing Into Formal*									
20. Conference Evaluation*									
21. Word Cache Technique*									
22. Testing/Evaluation*									
23. Creating an Artificial Language*									
24. Student Assisted Revision in Groups*									
25. Integration of Life & Language Skills*									
26. Student Centered Approach*									
27. Sentence-Combining*									

\*Teacher/Consultant's name was included on the original survey.

## Appendix I

### Computer Analyses for the

### "Evaluation of Teaching Method" Survey

Four quantitative analyses of the "Evaluation of Teaching Method" survey (Appendix F) were made. The results of each of these analyses are reported in this Appendix. The summary of these analyses is reported in the body of the paper.

— Before the survey answers were coded, Question 8 was altered to eliminate the inverse correlation so that all responses would contribute positively to likeliness to try a method. This changed the meaning from "How complex would this method be for students to use in the classroom?" to "How easy" would it be.

The purposes of the four analyses was to determine the internal validity of the survey instrument and identify the degree to which considerations about the innovation contribute to the teacher's likeliness to try a method.

#### Pearson's Correlation Analysis

Pearson's correlation analysis of every question with every other question using method as a variable (Table I1) and teacher as a variable (Table I2) indicated high or moderate correlation for the following items paired with each other: (a) by method, questions 1, 2, 3, 6, 7, 10 and questions 4, 5, 9; (b) by teacher, questions 1, 2, 3, 6, 7, 10, 11 and questions 4, 5, 9. Newness of information was not highly correlated in either analysis, nor was complexity of use for students.



Table 12

### Correlation Matrix by Teacher Number for Items

1-12 of "Evaluation of Teaching Method" Survey

Listing by teacher number where correlations were of high (\*) (.70 to 1.0) or moderate (.50 to .69) size for all surveys without missing data for questions 1-12. Minus (-) before the teacher number indicates a negative correlation.

Listing by teacher number where correlations were of high (\*) (.70 to 1.0) or moderate (.50 to .69) size for all surveys without missing data for questions 1-12. Minus (-) before the teacher number indicates a negative correlation.



### Regression Analysis

A regression analysis using five factors was sufficient to account for over 80 percent of the variance in all but two instances, with many variances in the ninetieth percentiles. Tables I3 and I4 show that the frequency with which each of the factors contributed to the likeliness to try a method varied by teacher and by method. By method (Table I3), the most frequent factors were compatibility with other methods used (row 7), appropriateness to grade level (row 1), likeliness to improve quality of writing (row 2), observability of writing improvement (row 6), and use with existing resources (row 9). By teacher (Table I4), the most frequent factors were likeliness of other participants to use the method (row 11), ease of teacher preparation (row 4), compatibility with other methods used (row 7), use with existing resources (row 9), and appropriateness to grade level (row 1).

Other observations were made from the regression analysis data.

By method: (a) improvement of quality of writing was a contributing factor almost twice as much as improvement of attitude toward writing; (b) newness of information was not a frequent contributing factor.

By teacher: (a) improvement of quality of writing did not appear as a top five factor for any elementary teacher; (b) improvement of quality of writing and of attitude toward writing were contributing factors with the same frequency of selection, with neither included in the overall top five when overall selection frequency was considered; (c) student ease of use and teacher ease of use did not appear to be factors contributing to the likeliness to try a method; (d) the

Table I3

Regression by Method for "Evaluation of Teaching Method" Survey

for Variables (Survey Items 1-9 &amp; 11-12) Most Influencing Likelihood to Try a Method (Item 10).

	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	H <sub>4</sub>	H <sub>5</sub>	H <sub>6</sub>	H <sub>7</sub>	H <sub>8</sub>	H <sub>9</sub>	H <sub>10</sub>	H <sub>11</sub>	H <sub>12</sub>	H <sub>13</sub>	H <sub>14</sub>	H <sub>15</sub>	H <sub>16</sub>	H <sub>17</sub>	H <sub>18</sub>	H <sub>19</sub>	H <sub>20</sub>	H <sub>21</sub>	H <sub>22</sub>	H <sub>23</sub>	H <sub>24</sub>	H <sub>25</sub>	H <sub>26</sub>	H <sub>27</sub>	
1. Appropriate to Grade				***2 .70		1 -.06		3 .28	3 -.16	***4 .65	***1 .60	***1 .70	***2 -.29	.14		1 -1.12	***4 .51	***1 .30	1 .19	***4 -1.00							***1 .86	***1 .32
2. Improved Quality	***2 -.44	***3 .97	***2 .54	***5 -.06	***1 .42					***5 -1.61		5 .21	***1 1.00	.26			***2 .39	***3 .19	***8 .58		***1 .63	2 -.25				4 .44		
3. Improved Attitude			***3 -.39		***3 .42	***3 1.11		***2 .26			***2 .48						1 .23		3 -.32							3 -.50		
4. Easy Preparation for Teacher	***3 -.49	***5 -.24	***4 .42	***1 .67		***4 .76	***2 .67	4 .48		3 -.12		4 -.18			7			***4 -.19				4 .91					***4 1.48	
5. Easy Use for Teacher	***4 .66		5 -.17					4 .14	2 .41					5 -.06	3 .22						3 -.14					5 -.33	3 .51	***3 -4.30
6. Observable	***5 .37	***4 -.62		4 -.14			3 .15	5 -.12	***5 -.14	***2 1.76	3 -.36			3 .09	5 -.10	1 .56			5 .16	***3 .70	***2 .46		***3 .80					
7. Compatible		***1 .71	***1 .74				***1 .53	***1 .54	***1 .80	1 .31	5 .37			***1 .58	***1 .89	2 .00			2 .39	***5 .60	***4 .22	1 .73	1 .20				4 .41	***2 2.9
8. Student Ease of Use				***3 -.42		***2 -.19		4 -.16				***8 -.21		2 .11		5 -.10			1 1.14		5 .32	5 .15				5 -.19		
9. Existing Resources	***1 .63				***2 -.41	***5 -.66	5 -.22			4 -.26	3 .17	3 .13			3 1.54	***3 -.33	***5 .17					***4 .26		2 .35	***2 -.84	***5 .84		
1. Other Participation Likely				5 .16											4 -.12		***2 .50			***5 -.18	3 .96	***2 .29						
2. Newness of Information		***2 .42		4 .16		4 -.22					***2 .17	***4 -.11								***2 .78						***1 -.69		
R <sup>2</sup> - Variance for all factors	.93	.93	.96	.86	.94	.97	.98	.93	.99	.95	.97	.98	.97	.98	.98		.95	.98	.94	.91	.98	.90	.93		.78	.71	.98	

\*\*\*Significant F .01  
\*\*Significant F .025  
\*Significant F .05

Significant F  
Variable Entry No.  
Beta wt.

Table 14

Regression by Teacher for "Evaluation of Teaching Method" Survey.

for Variables (Survey Items 1-9 &amp; 11-12) Most Influencing Likelihood to Try a Method (Item 10).

	T <sub>E1</sub>	T <sub>E2</sub>	T <sub>E3</sub>	T <sub>E4</sub>	T <sub>J5</sub>	T <sub>J6</sub>	T <sub>J7</sub>	T <sub>JA</sub>	T <sub>H9</sub>	T <sub>H10</sub>	T <sub>H11</sub>	T <sub>H12</sub>	T <sub>H13</sub>	T <sub>H14</sub>	T <sub>H15</sub>	T <sub>C16</sub>
1. Appropriate to Grade	1 .19		***2 .34	3 .35				**5 .39		***4 .56	***2 .57			**5 .25	***2 .37	
2. Improved Quality						5 .17	2 .06			***3 -.56	***5 .36	***4 .31			5 .16	
3. Improved Attitude	3 .52		5 .11				5 .15				***3 -.34	***2 -.52	5 -.12			
4. Easy Preparation for Teacher	**4 .34	5 .12		5 .09	3 .21	***3 .26		**3 -.29	4 -.22	***1 -2.1	***4 .30			***4 -.39		**3 .23
5. Easy Use for Teacher	5 -.24											***3 -.17	4 -.13			
6. Observable			***4 .13		5 -.11				5 .12						***3 -.35	
7. Compatible		***1 .77	***1 .29	***1 .39	***1 .50	***1 .74		1 .27	***1 .68	***2 1.0			***1 .97			***1 .61
8. Student Ease of Use				2 .20				**4 -.26								***4 -.44
9. Existing Resources	***2 .33	***2 .28			2 .12	4 -.18	***1 .36		***3 .37					***1 .53	4 .22	***5 .31
11. Other Participation Likely		**4 -.16	***3 .22		4 .26		***3 .51	***2 .77	***2 .42		***1 .31	***1 .3	***2 .31	***2 .60	***1 .53	***2 .37
12. Newness of Information		*3 .11		4 .10		***2 .21	***4 -.44					5 -.07	**3 .16	***3 -.32		
R <sup>2</sup> Variance for all factors listed	.88	.95	.96	.88	.80	.85	.88	.91	.91	.99	.90	.97	.87	.82	.81	.89

\*\*\*Significant F .01  
\*\*Significant F .025  
\*Significant F .05

Significant F  
Variable Entry No.  
Beta wt.

perception of how likely other participants were to try a method contributed frequently as a factor; (e) ease of teacher preparation also contributed frequently as a factor.

### Factor Analysis

A factor analysis using a varimax rotation was computed, resulting in a simplification of the columns of the factor matrix. The analysis was computed by method (Table I5) and by teacher (Table I6). The analyses indicated that survey questions 1, 2, 3, 6, 7, 10, and 11 occurred in various combinations with the highest percentage of variance. Questions 4, 5, and 9 also occurred in various combinations and usually contributed a lower percentage of variance.

### Alpha Coefficient

A program to calculate coefficient alpha by Stock and Elliott (Note 5) was used to determine the internal consistency of the survey instrument by teacher and by method. The analysis estimated the degree to which items combined to form a common-core consistent with total instrument scores. It is customary to consider an instrument reliable if it exceeds .85. The alpha coefficient by teacher was greater than .84 for all sixteen participants and greater than .85 for fourteen. The alpha coefficient by method was greater than .85 for sixteen of the methods. Taken all together without consideration for teacher or method, variability for the alpha coefficient was .89. It was assumed that the survey had good reliability.

Table 15

Varimax Rotated Factor Matrix by Method for "Evaluation of  
of Teaching Method" Survey, Items 1-12, Showing Factor Variance  
Accounted For and Items Contributing to the Factor

Method	Factor 1 %/Items	Factor 2 %/Items	Factor 3 %/Items	Factor 4 %/Items	Factor 5 %/Items
M <sub>1</sub>	<u>51.6</u> /1, 2, 3, 6, 7	<u>25.9</u> /4, 5, 9, 10	<u>12.3</u> /11	<u>10.2</u> /12*	
M <sub>2</sub>	<u>77.2</u> /1, 2, 3, 6, 7 10	<u>14.8</u> /4, 5	<u>8.0</u> /8, 9*		
M <sub>3</sub>	<u>59.4</u> /1, 7, 10, 11	<u>24.3</u> /4, 5, 8, 9	<u>16.3</u> /2, 6, 3*		
M <sub>4</sub>	<u>38.4</u> /1*, 8, 11	<u>20.9</u> /3, 7	<u>16.9</u> /4, 10	<u>12.4</u> /2, 6	<u>11.4</u> /5
M <sub>5</sub>	<u>70.4</u> /4, 5, 11	<u>16.0</u> /1, 2, 3*, 7 9	<u>13.6</u> /10		
M <sub>6</sub>	<u>58.9</u> /3, 7, 9	<u>20.0</u> /4, 5	<u>11.6</u> /2, 6	<u>9.4</u> /8	
M <sub>7</sub>	<u>61.5</u> /6, 10, 11, 1*, 7*	<u>23.3</u> /4*, 9, -2*	<u>15.2</u> /3, -8		
M <sub>8</sub>	<u>48.7</u> /1, 7, 10, 11*	<u>24.8</u> /4, 5, 9	<u>17.7</u> /2, 6	<u>8.8</u> /12	
M <sub>9</sub>	<u>71.9</u> /4, 5, 7, 10 11*	<u>18.3</u> /1, 2, 6, 7*, 10*, 11*	<u>9.8</u> /12, -8		
M <sub>10</sub>	<u>70.4</u> /1, 2, 3*, 6 7, 10	<u>17.9</u> /5, 12	<u>11.7</u> /9*		
M <sub>11</sub>	<u>51.1</u> /1, 3, 7, 10, 6*	<u>23.8</u> /4, 5, 9	<u>12.8</u> /2, -11	<u>12.4</u> /12	
M <sub>12</sub>	<u>87.6</u> /1, 2, 7, 9, 10	<u>12.4</u> /4, 5, 6, 11 3*			
M <sub>13</sub>	<u>60.6</u> /4, 5	<u>17.5</u> /6, 7, 10, 2*	<u>13.5</u> /1	<u>8.4</u> /5, 12	
M <sub>14</sub>	<u>73.9</u> /1, 2, 3, 7, 10, 11	<u>17.2</u> /4, 5, 9	<u>8.9</u> /1*, 12*		
M <sub>15</sub>	<u>90.7</u> /1, 2, 3, 6, 7, 9, 10	<u>9.3</u> /4, 8, 12			
M <sub>16</sub>	<u>91.6</u> /1, 3, 6, 7, 9, 10	<u>8.4</u> /4, 5, 8, 11			
M <sub>17</sub>	<u>75.8</u> /1, 2, 3, 6, 7, 10, 11	<u>13.7</u> /9	<u>10.5</u> /8, 5*		

\*below .70

Table 15 (continued)

Method	Factor 1 %/Items	Factor 2 %/Items	Factor 3 %/Items	Factor 4 %/Items	Factor 5 %/Items
M <sub>18</sub>	74.1/1,2,3,6, 7,10,11	16.9/4,5,9*	9.0/12		
M <sub>19</sub>	64.8/1,2,3,6, 7,10,11	23.6/4,5*,9	11.6/12		
M <sub>20</sub>	51.7/1,4,7,3*, 9*	25.7/11,12	13.4/2,6	9.2/8,10	
M <sub>21</sub>	Correlation matrix could not be inverted; communality of one or more variables exceeded 1.0 after 1st iteration.				
M <sub>22</sub>	Squared multiple correlation cannot be found; initial estimate of communalities is maximum off diagonal element of correlation matrix.				
M <sub>23</sub>	62.4/2,6,7,10, 1*,3*,5*	17.2/1*,9*,10*, 11	11.0/4	9.4/12	
M <sub>24</sub>	Correlation coefficient for variables with 10% 99.0; factor analysis not done.				
M <sub>25</sub>	40.0/9,10	22.1/2,6	19.9/8,4*	9.6/1,7	8.4/11
M <sub>26</sub>	58.2/4,5,9*	22.2/8,-12*	11.1/2,3*,7,9	8.5/1,10	
M <sub>27</sub>	55.5/4,5,7,9	*27.2/1,2,3*,6*, 8*,10	17.3/11,12		

Table 16

Varimax Rotated Factor Matrix by Teacher for "Evaluation of Teaching Method" Survey, Items 1-12, Showing Factor Variance Accounted For and Items Contributing to the Factor

Teacher	Factor 1 %/Items	Factor 2 %/Items	Factor 3 %/Items	Factor 4 %/Items	Factor 5 %/Items
T <sub>E1</sub>	76.1/1.2,3,6,7,8 10	16.2/4,5	12.7/9,12*		
T <sub>E2</sub>	75.4/1,7,10 1*	13.8/4,5,9	10.6/2,6		
T <sub>E3</sub>	82.6/1.2,3,6,7,10, 11	16.4/4,9			
T <sub>E4</sub>	82.1/1,2,3,6,7,8,9*, 10,11*	17.8/4,5			
T <sub>J5</sub>	63.3/1,7,10, 11*	16.4/4,5,9*	12.2/2	8.1/12	
T <sub>J6</sub>	58.8/1,3,7, 10,11, 2*,6*	18.2/8,2*, 6*	11.7/5	11.2/9,12*	
T <sub>J7</sub>	64.0/4,5,9, 10,11	21.8/1,3, 2*,7*	14.2/8,12		
T <sub>J8</sub>	80.6/1,2,4,6, 7,10,11*	11.3/4,5	8.1/8*		
T <sub>H9</sub>	72.2/1,2,6,7, 9*,10	14.8/4,5,8	12.0/12		
T <sub>H10</sub>	After 1st iteration, communality of one or more variables exceeded one.				
T <sub>H11</sub>	63.3/1,2,6, 7,3*,10 11	23.2/5,8	13.6/9,4*, 6*		
T <sub>H12</sub>	87.5/1*,2,3,6, 7,10,11	12.5/4,5,9			
T <sub>H13</sub>	80.9/4,5,9	14.2/6*,1,2, 3	4.9/7,10*, 1*		
T <sub>H14</sub>	63.1/2,3,4,5, 6,7	22.8/9,10, 11*	14.1/12		
T <sub>H15</sub>	56.9/4,5,3, 9*	29.4/1,7,10, 11	14.2/2,3,6*	8.5/12*	
T <sub>C16</sub>	67.6/1,7,10	23.5/4,5,9	8.9/6,3*,2*		

\*below .70



## Appendix J

Location in Data and Material of Categories of  
Influences Affecting Teacher Decision to Try a Method

	T <sub>E1</sub>	T <sub>E2</sub>	T <sub>E3</sub>	T <sub>J4</sub>	T <sub>J5</sub>	T <sub>J6</sub>	T <sub>J7</sub>	T <sub>J8</sub>
1. Appropriate Grade Level	10, 23, 12	12, 5, 12 17, 27, 31	12, 28	13, 22, 27	12, 10, 29			11
2. Easy Teacher Preparation								
3. Easy Teacher Use								
4. Observable Improvement								
5. Compatible:								
a. Present Methods		20, 16	20, 21	27	27, 31	19, 20, 14	8	
b. Personal Interest	12, 20	12	6, 6, 12			8		
c. Teaching Style		4, 13, 20					17, 20	4, 17, 12
d. Own & District Values		24	12	26	4, 12			
6. Easy Student Use								
7. Existing Resources	12	12	15, 12		12	21	3	
8. Likely other Participants to Use								
9. New Information		12, 24, 28					32	
10. Alternative Provided	2, 3, 4, 6, 7, 11, 12, 13, 15, 16, 19, 22, 27, 32	4, 6, 6, 9 10, 12, 14 15, 16, 21 24, 25, 27 30	9, 12, 13 14, 15, 17 18, 21, 22 25, 26, 32	2, 4, 6, 7, 9, 11, 14, 15, 16, 17 18, 19, 21 23, 24, 25 26, 27, 32	1, 2, 3, 8 11, 12, 13 14, 15, 16 18, 19, 20 21, 26, 27 31	1, 2, 3, 4, 5, 6, 7, 9, 11, 12, 13 14, 15, 18 21, 22, 23 24, 25, 26 27, 30, 12	4, 3, 4, 5, 6, 7, 13, 14 15, 16, 18 19, 21, 22 24, 26, 27 31, 32	1, 2, 3, 5 6, 7, 9, 12 13, 14, 16 18, 19, 23 24, 26, 27 28, 32, 12
11. Willing to Spend Time	P <sub>1</sub>		P <sub>1</sub>	23		I <sub>1</sub>	I <sub>1</sub>	I <sub>2</sub> , P <sub>1</sub>
12. Likely to:								
a. Improve Quality		P <sub>1</sub> , I <sub>2</sub> , I <sub>1</sub>	20	I <sub>2</sub> , I <sub>1</sub>	9, I <sub>2</sub>	I <sub>2</sub> , I <sub>1</sub> , P <sub>2</sub>	10, I <sub>1</sub> , I <sub>2</sub>	I <sub>1</sub>
b. Improve Attitude	P <sub>1</sub> , P <sub>2</sub> , P <sub>3</sub> , I <sub>1</sub>	4, I <sub>2</sub> , P <sub>1</sub> P <sub>2</sub> , I <sub>1</sub> , P <sub>3</sub>	18, 20, P <sub>2</sub> I <sub>1</sub> , I <sub>2</sub>	2, I <sub>1</sub> , P <sub>3</sub>	P <sub>1</sub> , I <sub>1</sub>	I <sub>2</sub> , I <sub>1</sub>	4, 18, I <sub>2</sub> , I <sub>1</sub>	17, P <sub>1</sub> , P <sub>2</sub> I <sub>1</sub>
c. Improve Fluency/ Creativity	I <sub>1</sub> , I <sub>2</sub> , P <sub>3</sub>	P <sub>1</sub> , I <sub>2</sub>	P <sub>1</sub> , P <sub>2</sub> , I <sub>2</sub> I <sub>1</sub> , P <sub>3</sub>	I <sub>2</sub>	I <sub>2</sub>	17		I <sub>2</sub>
d. Improve Mechanics	P <sub>1</sub> , I <sub>1</sub> , P <sub>3</sub>	I <sub>1</sub> , I <sub>2</sub>	P <sub>1</sub> , I <sub>1</sub>	I <sub>1</sub> , I <sub>2</sub> , P <sub>3</sub>	I <sub>1</sub> , I <sub>2</sub>		I <sub>1</sub> , I <sub>2</sub>	I <sub>1</sub> , I <sub>2</sub>
e. Apply to Life	P <sub>1</sub> , P <sub>2</sub> , P <sub>3</sub>	P <sub>2</sub> , P <sub>3</sub> , I <sub>2</sub>	4, 17, P <sub>2</sub> I <sub>2</sub>	I <sub>1</sub> , P <sub>3</sub>	I <sub>2</sub> , P <sub>1</sub> , P <sub>2</sub> , I <sub>1</sub>	I <sub>1</sub>	I <sub>1</sub> , P <sub>2</sub>	P <sub>2</sub> , P <sub>3</sub> , I <sub>1</sub>
f. Improve Self-Evaluation			P <sub>2</sub> , I <sub>2</sub> , P <sub>3</sub>				I <sub>1</sub>	I <sub>2</sub>
g. Pass District Competency Test		I <sub>1</sub> , I <sub>2</sub>			I <sub>1</sub> , 23, I <sub>2</sub>			
13. Attitude Toward Teacher	I <sub>2</sub>		24, 26, I <sub>2</sub>		2, 16, 24 I <sub>1</sub>	I <sub>2</sub>	5, 11, 13 14, 24	4, 17

Codes: 1-33 refer to the Evaluation of Teaching Method surveys (M<sub>1</sub>-M<sub>33</sub>)I<sub>1</sub> refers to First InterviewI<sub>2</sub> refers to Second InterviewP<sub>1</sub> refers to Application PaperP<sub>2</sub> refers to First Position PaperP<sub>3</sub> refers to Second Position Paper

## Appendix J (continued)

	T <sub>H9</sub>	T <sub>H10</sub>	T <sub>H11</sub>	T <sub>H12</sub>	T <sub>H13</sub>	T <sub>H14</sub>	T <sub>H15</sub>	T <sub>C16</sub>
1. Appropriate Grade Level	11	12			10			12, 27
2. Easy Teacher Preparation					2			
3. Easy Teacher Use								
4. Observable Improvement								
5. Compatible:	25		12, 27	31, 15	16, 18, 19, 20	27	25, 17	
a. Present Methods			12, 23	12		3, 6	12, 11	
b. Personal Interest								
c. Teaching Style	24, 1	12, 17	12, 23, 21	17	21, 22, 26, 17			
d. Own & District Values	1	12	12, 1, 3, 8, 18, 22, 15	12, 15	12, 2	17	1, 23, 28	
6. Easy Student Use								23
7. Existing Resources		12, 1	12	12	12	22, 21	21	
8. Likely other Participants to Use	21	8						
9. New Information			4					
10. Alternative Provided	1, 3, 9, 10, 12, 13, 14, 15, 16, 19, 22, 23, 24, 25, 26, 27, 29, 32	25, 27	12, 6, 7, 8, 11, 12, 14, 16, 16, 17, 20, 21, 22, 24, 26, 32, 33	1, 12, 1, 2, 11, 13, 14, 23, 26, 27, 28	12, 4, 8, 9, 13, 14, 16, 17, 21, 24, 32, 33	12, 3, 5, 6, 7, 12, 13, 14, 15, 16, 17, 21, 23, 25, 26	12, 2, 4, 5, 7, 8, 10, 12, 14, 15, 16, 17, 21, 24, 27, 32	12, 1, 2, 5, 6, 10, 13, 14, 15, 16, 17, 18, 19, 20, 21, 25, 26
11. Willing to Spend Time	12	23	12, P <sub>1</sub> , 25		P <sub>1</sub>	P <sub>1</sub>	12	
12. Likely to:								
a. Improve Quality	1, 2, 20, 24	12, 1, 27	12, 12, P <sub>2</sub> , 9, 31	P <sub>1</sub> , 1	12, 12	1, 23, 24	12, 25	1, P <sub>2</sub> , P <sub>3</sub> , 24
b. Improve Attitude	1, 12, 1, 4, 9, 11, 14	1, 12, P <sub>3</sub>	12, P <sub>2</sub> , 12, 2, 4, 5, 20	1, 12	12, 5, 6, 8, 9, 11, 12, 14, 21	1, 1, 16, 18, 21	12, 19	1, 12, P <sub>3</sub> , 3, 4, 11
c. Improve Fluency/Creativity	1, 12		12, 16	12, P <sub>3</sub>	1, 12, 3	1, 12	1, 12, 4	1, P <sub>3</sub>
d. Improve Mechanics	1	1, 12	P <sub>2</sub>	P <sub>1</sub>	P <sub>1</sub> , 1, 1	1, 1	1, 12	P <sub>2</sub> , P <sub>3</sub> , 1
e. Apply to Life	P <sub>1</sub> , 1	12, 25	12, P <sub>2</sub> , P <sub>3</sub> , 25	12, P <sub>1</sub> , 23	12, 25	1, 12, 19	1, 2, 32	P <sub>2</sub> , 7
f. Improve Self-Evaluation			P <sub>1</sub> , P <sub>2</sub> , 1, 12			12		
g. Pass District Competency Test	1, 2, 3, 18	12	P <sub>1</sub>	9		1	26	
13. Attitude Toward Presenter	12, 20, 5, 15, 16, 30	12, 17	29, 30	30, 17	28	1, 6, 7	12	

## Appendix K

## Goal Definitions Identified in this Study for Writing

Improvement of writing quality: includes supporting details, clear organization of sentence and paragraph, knowledge of subject, concise and precise wording, appropriateness to audience, variety of sentence length, and correctness.

Improvement of attitude toward writing: includes enjoyment of writing, self confidence about own writing, desire to write and express self, and sense of pride.

Improvement of fluency/creativity: includes quantity writing, having something to say and choosing how to say it, improving vocabulary, and expanding to all communication processes.

Improvement of mechanics: includes sentence combining, use of dictionary and thesaurus, grammatically appropriate words, legibility, and punctuation.

Apply what they learn to life: includes improvement of thinking, expressing self in life situations, friendly letter, communication to a public audience, use for personal pleasure, understanding self through writing, and integrating writing with other skills.

Improvement of self-editing and evaluation: includes revising own writing with or without teacher or other comments, choosing which writing to keep and which to throw away, and observing progress in own writing.

Ability to pass the district competency test: includes meeting minimum standards in writing or parts of the writing process identified as minimum competencies by the district.

## Appendix L

## Revised Evaluation of Teaching Method Survey

EVALUATION OF TEACHING METHOD: \_\_\_\_\_

DATE \_\_\_\_\_

CODE NUMBER \_\_\_\_\_

Please answer each question by placing an X in the most appropriate box.

VERY

NOT VERY

5 4 3 2 1

1. How appropriate is this method to use with students at your grade level?
2. How easy would this method be for teachers to prepare and use?
3. How observable would the writing improvement be if students used this method?
4. How willing are you to spend the time required to use this method?
5. How likely are you to try this method?
6. How likely are others in the Institute to try this method?


How likely would students using this method:

7. improve their quality of writing?
8. improve their attitude toward writing?
9. improve their writing fluency/creativity?
10. improve their writing mechanics?
11. improve their self-evaluation ability?
12. apply what they learn to experiences outside school?
13. improve their ability to pass the district competency test?


How compatible is this method with:

14. others you now use?
15. your personal interests?
16. your own and district values?
17. your teaching style?
18. existing resources?
19. Something new that I learned during this presentation is:
20. I might have made this presentation differently by:


## Appendix M

### Summary Sheet of Changes in Responses for Each Participant by Comparing "Have You Tried It?" Pre- and Post-Surveys

	Have Heard of It		Have Not Tried It	Have Considered Trying It But Did Not	Have Tried It But Do Not Like It	Use It		Number of Instances Where Awareness and Use	
	Yes	No				Occasionally	Regularly	Increase	Decrease
1. Use pictures to stimulate writing			H-2			H+1, J-1	H+1, J+1	3	2
2. Use music to stimulate writing			J-2	C+1	J-1	H+1		2	2
3. Use of games			H-3, H+1	H+1, J-2		J+4, C+3 E+4, J-1	H+4, E+5	7	3
4. Role playing to develop characters			J-1	H+1, E-1		J+1, C+3, E-1 J+1, E+4	H+1, J+1	7	3
5. Peer evaluation of student writing						J-1, J+4	J+3, E+1, H+1, H+1 J+1	6	1
6. Journal writing						J-1, H+2 J+2	H+1, H+1, E+3, H+4 H+4, E+1, E+3, H+4	10	1
7. Sentence combining practice			E+1			J+2, H+3	H+5, C+4, E+3, H+1 E+4, H+1	9	0
8. Use of student tutors			H+1			C+3, H+3	J+1, H+4, E+4	6	1
9. Sentence construction practice-- simple, complex, compound			E+1		J+2, J+1	J+1	H+1	5	0
10. Use movies to stimulate writing				C+1		E-1	H+1, J+1	3	1
11. Talk about subject before writing						J-1, H-1		0	2
12. Reading a variety of literature						J-1	H+1, H+1, J+1	3	1
13. Large group writing						H+3, J-1	C+1, E+1, H+1, E+1	5	1
14. Class publication of writing			E-3	C+1, H-2, J-2		J-1, J-1	H+1, E+1, J+1, H+1	6	4
15. Sentence construction practice-- adding phrases and clauses			E+1		H-1, J-2	C+3, J-1	H+1	4	2

entries show grade level  
and number of columns moved  
toward (+) or backward (-)

Grade Levels: E = Elementary; E-J = Elementary Teacher in pre-survey who  
was junior high teacher for this survey; J = Junior High;  
H = High School; and, C = College

# Appendix M (continued)

	Have Heard of It		Have Not Tried It	Have Considered Trying It But Did Not	Have Tried It But Do Not Like It	Use It		Number of Instances Where Method Awareness and Use	
	Yes	No				Occasionally	Regularly	Increase	Decrease
16. Videotape student-written scripts				H+1		H-1, J-1		1	3
17. Students write and make Super 8 movie			H-1	H+1, H+1, J-2		J+1, J+3		4	2
18. Grammar drill--identify parts of speech					H-1, C-1 E-2	J-1, E+3	H+1	2	4
19. Review of transformational grammar			E+1	H+1, J-2	H+2, H+2, E+3	J+3		6	1
20. Generate sentence from key noun and verb			J+1, E+1			H+2, C+1 E-1	H+1, H+4, J+1	7	1
21. Generate paragraph from key sentence			H+3, H+4 J-2			H-1, J-1	H+1, H+1, E+5 J+1	4	5
22. Teacher writes as student dictates				J-2			E+1, H+2, E+5 J+1	4	1
23. School wide writing evaluation system			E+1	E+1, H+1	C-1, H-1	H-1, J+4 J+4, H+4	J+5	7	3
24. Rewriting based on teacher comments to student			J-4		E-2, J-1 E-2	H+3	H+2, J+1, J+3	7	1
25. Rewriting based on student comments to each other			E-4	J+1			H+1, E+1, J+1 H+4, E+1, H+1	7	1
26. Sensory stimulation prior to writing			J-3			J+3, H+3 C+4, E-3	H+4	6	1
27. Write ending from a given beginning				H-2		H+3, H-1 J+1	H+4	3	2
28. Transpose writing from one genre to another			E-3, E+1	C+1, H+1 J+1		J+3, H+3 J+1	H+4, H+4	6	2
29. Use small group assignments			J-3	H-2		E-1	E+1, H+4	3	2
30. Acquaint students with persons who have writing careers				H+1, J+1 J-1		E-1, J-1	H+1, C+4	4	3
31. Teaching writing with reading			H-3	C+1		H-1, H+3	J+1	3	2

# Appendix M (continued)

32. Compose daily announcements over Public Address system
33. Develop slide tape narration
34. Coordinate writing instruction with other teachers in my department/grade level
35. Coordinate writing instruction with teachers in other departments/grade levels
36. Outline following rough draft
37. Student comments about use of different methods of teaching writing
38. Imitate a writer
39. Write cartoons or cartoon captions
40. Students write and produce a play
41. Free writing
42. Focused free writing
43. Writing based on language experience
44. Moving personal experience into public writing
45. Guided writing
46. Writing based on specific literary works
47. Using the CB to teach writing

Have Heard of It	Have Not Tried It	Have Considered Trying It But Did Not	Have Tried It But Do Not Like It	Use It		Number of Instances Where Method Awareness and Use	
				Occasionally	Regularly	Increase	Decrease
		E+1, H-4	J+1, J-2, J+2			4	2
		H+1, J-2, J-1, J-2		H+4		2	3
		H+1, H-3		H-1, H+1, H+3, E+3		4	2
	H-3	H-2, C+1, H+1, J-2		E+4, E+3, J+2		5	4
	H+1, H-3, E+1	J-1, H+2	H-2, J-1	J+2	C+4, H+4	5	7
	H-3, E+1	J-2		E-1, H+4, J+2	H+4, E+1	5	3
	E+1		H+2	J+3, H+3, C+3, E+3	J+1	7	0
	H-3	H+1	J+1, H+2	H+3	E+1	6	1
	H-2			J-1, H-1, E-1	H+1	1	5
				J-1, H+1, H+1, J+1, J-1, H+2, H+4, J+1, E+4, H+4, E+4, H+4, J+1, J-1	H+1, H+1, J+1, E+4	9	2
	J+1			J-1	H+4, J+1, E+4	10	1
	H-3	J+2, H+2			H+1, H+1	4	1
	E+1			H+4, J+2	H+4, C+1, J+5, J+1	7	0
	E-3, E+1	H-2, H-1	C-1	H+1, J+4, E-1, J-1	H+1, J+1, H+4	6	6
	E-3	J-3, H-2		H-1, H-1, E+3, J-1		1	6
	J+1, H+1, E+1	H+1, H+2				8	0



## Appendix N

## Data from the "Use of Institute Presentation Survey"

The measurement scales on this survey (Appendix H) assume participant awareness of the methods with either interest or non-interest as beginning choices. The choices are consistent with Rogers (1962) work about stages in the adoption process, with the exception of the added choice of (adaptation) as a modified form of adoption. Aylen et al. (Note 4) used these stages in their study; data from that study indicated the criterion-oriented validity of these scales.

The data from the "Use of Institute Presentation Survey" are summarized in Table N1. For each entry, the grade level of the participant, the intended likeliness to use the method as reported in Question 10 in the "Evaluation of Teaching Method" survey, and what the participant got from the presentation (idea, material, process) are noted. Data is given for all instances where participants answered both question 10 on the method survey and the corresponding method entry on the use survey. Twenty-one possible entries were incomplete and not entered in the table.

Table N1

Summary Sheet of Responses to "Use of Institute Presentation Survey" by  
Participant, Intended Likelihood to Try, and Whether Idea,  
Material, and/or Process was Obtained

	Not Decided to Try	Interested	Plan to Use	Adapted and Tried	Tried Without Adopting	Adapted And Will Use Again	Tried Without Adopting and Will Use Again
M <sub>1</sub>	EI-1-IM I-1 E-1-P J-3-M J-2-I H-3-P H-1 H-1 H-1 H-2	J-2-M J-1-IM H-4	H-3-IMP C-1-P				
M <sub>2</sub>	H-1 H-4	EJ-5-IMP E-3-IM H-3	E-5-IM H-5-M H-2-P H-5-IMP C-1-P	J-3-IM		J-5-M J-5-IM	
	EJ-3-I E-1 J-1-I J-1-IP J-2-I H-1-P H-1 H-2 H-1 C-1-P	J-4-IMP H-5-IP H-4-I	H-5-IP				
M <sub>4</sub>			H-5-IMP			EJ-5-IMP E-5-I J-5-M J-5-I H-5-P H-4-IP H-5-P H-4-IMP H-5-IMP C-4-P	E-5-I J-5-IMP J-5-IMP
M <sub>5</sub>	E-5-IP	EJ-4-IP J-5-IP H-5 H-5-IP	E-3-I H-4 H-4-P C-4-P		J-2-IP	J-5-M J-5-IM H-5-IMP	H-5-IMP H-5-IMP
M <sub>6</sub>	J-3-IM H-3	J-4-IM H-4-IM H-5-IMP H-3 C-4-I	J-5-M H-3 H-5-I			E-5-IM H-4-P	J-5-IMP

First entry coding -- Grade Level

E - Elementary  
EJ - Elementary teacher who became junior high teacher fall semester  
J - Junior high  
H - High school  
C - College

Third entry coding

I - Idea  
M - Material  
P - Process

Second entry coding -- Survey "Likelihood to Try"

Likelihood of participant to try method 1 ranging from 5 to 1, with  
5 being "very likely" and "1" being "not very likely"

Table N1 (continued)

	Not Decided to Try	Interested	Plan to Use	Adopted and Tried	Tried Without Adapting	Adopted And Will Use Again	Tried Without Adapting and Will Use Again
M <sub>7</sub>	E-5-I H-3 H-5 C-2-P	EJ-4-I J-5 J-5-IP J-4-I H-5	H-3		J-4-IP	H-5-I	
M <sub>8</sub>	H-2-P H-5 C-2-P	EJ-1-IP E-5-I H-2-IMP	J-5-I J-5-IP H-4-IMP H-5 H-5-IP	J-2-I		J-4-P	H-5-IMP
M <sub>9</sub>	EJ-1-I J-3-I H-4-P		H-5-IP H-5-IP			E-5-I E-5-IP J-5-P J-2-IM H-4-P H-5-IMP	J-5-IMP H-5-P
M <sub>10</sub>	EJ-1-IP E-1-P J-3-I H-4	J-3-IMP J-4-I H-5		J-1-IP H-4-IP		E-5-IP H-2-I H-5-IMP C-5-P	
M <sub>11</sub>	C-3-I	J-5	EJ-5-IMP J-5-IMP H-5 H-5	J-5-IMP		E-5-IP J-4-I H-2-I H-5-IMP H-3-P H-5-IMP	E-5-IP
M <sub>12</sub>	E-1-P H-4 H-4-P	H-5-IP H-5	EJ-1-IP J-5-IMP J-4-I H-4-IP H-5-IP		J-4-M	E-4-IP J-5-M	H-5-IP
M <sub>13</sub>	H-3 H-2 H-4 C-2	E-3-IM H-5	E-5-IM J-5-M J-5-IMP H-5-IP	J-3-M		EJ-5-IMP J-3-IM H-4-IMP H-5-IMP	
M <sub>14</sub>	H-2-P		E-5-IP C-2-M J-5-IP H-4-IMP H-5-IP	H-5-IP		EJ-5-IP E-5-I J-5-IMP J-4-I H-5-P C-5-P	H-5-IP H-5-IMP
M <sub>15</sub>	E-3-I E-3-IM H-3 H-1	C-3-P H-3 H-5	J-5-IP J-5-IP H-5-IMP C-2-I			EJ-5-I H-5-P H-5-IMP	
M <sub>16</sub>		H-5-P H-2 H-1-P	EJ-5-IP E-5-IMP H-4-IMP H-5 H-5-IMP C-5-P			E-5-IM J-5-IMP J-4-IM	J-5-IMP H-5-IMP

Table N1 (continued)

	Not Decided to Try	Interested	Plan to Use	Adopted and Tried	Tried Without Adopting	Adopted And Will Use Again	Tried Without Adopting and Will Use Again
N <sub>17</sub>	E-4 J-3-I	J-3-I H-3 H-4-IP	EJ-2-IP J-5-IP H-5-IMP H-3 H-5-IP			E-5-IP J-5-IMP C-5-P	H-5-IMP
N <sub>18</sub>	E-3-IM J-4-I H-2-P H-3 H-2 H-4 H-1	J-4-IM C-1-I	EJ-5-IM E-4-I J-4-I H-5-IP			J-5-IMP H-5-IMP	
N <sub>19</sub>	E-4-I H-4 H-5-P C-2-P	J-4-M J-1-IP J-5-I J-3-I	EJ-4-IMP H-5 H-5-IP	H-5-IMP		E-4-IP H-4-P	
N <sub>20</sub>	J-4-I	EJ-5-I H-3-P C-5-P				E-5-IP J-4-IP J-4-I H-5-IMP H-4-I H-5-P	E-5-I J-5-IP H-5 H-3-IP
N <sub>21</sub>	E-5-I H-3-IP	H-5-P	H-3-IMP H-5 H-5-IMP			EJ-5-IP E-5-IP J-5-IMP J-4-IMP J-5-IM	J-5-IMP H-5-IP C-5-P
N <sub>22</sub>	E-1-IM J-1-I J-5-IMP J-2-I J-1-P H-4 J-2	J-5	E-1-I J-3-M				H-5-P
N <sub>23</sub>	EJ-1-IP E-1-IMP J-4-IP H-1 J-2 J-2 C-2-P	J-3-IMP J-5-IMP J-3-I J-2-IMP	H-5-IMP H-3-I				
N <sub>24</sub>			EJ-5-IP			E-5-IP J-5-IMP J-5-I H-5-IMP H-5-I H-5-IMP H-5-IP C-5-P	E-5-IP J-5-IP J-5-IMP H-5-P

Table N1 (continued)

	Not Decided to Try	Interested	Plan to Use	Adopted And Tried	Tried Without Adopting	Adopted And Will Use Again	Tried Without Adopting and Will Use Again
H <sub>25</sub>	E-3-I H-2 H-2	EJ-1-IMP J-5-IP J-3-I H-2-P H-4 H-4	H-2-P			E-4-IP H-5-IMP	J-5-IMP
H <sub>26</sub>		EJ-5-IP H-2 C-2-P	H-4-I	H-5-IMP		E-5-IP J-5-IP J-5-I H-5-IP H-5-IP C-5-I	E-5-IP J-5-IP J-5-IMP
H <sub>27</sub>			EJ-1-IMP H-5-IMP H-5-IP	H-5-IMP	H-5-IMP	E-2-IMP J-5-IMP J-5-IMP H-5-IP H-5-P	E-3-IP J-5-IMP J-5-IMP H-5-IMP C-5-P
Summary of Total Responses by Likelihood to Try	7 5's 14 4's 18 3's 20 2's 26 1's	25 5's 18 4's 14 3's 5 2's 5 1's	47 5's 13 4's 8 3's 5 2's 4 1's	4 5's 1 4's 2 3's 1 2's 1 1's	1 5's 2 4's 0 3's 1 2's 0 1's	69 5's 18 4's 2 3's 4 2's 0 1's	35 5's 0 4's 2 3's 0 2's 0 1's
Total Column Entries	65	67	77	9	4	93	37
Summary of Presentations Offering Ideas, Materials, Processes*	32 8 25	33 17 28	55 28 49	8 5 4	3 2 3	84 40 65	31 18 34

\*More than one response possible in every entry.