DOCUMENT RESUME

ED 225 977 SP 021 754

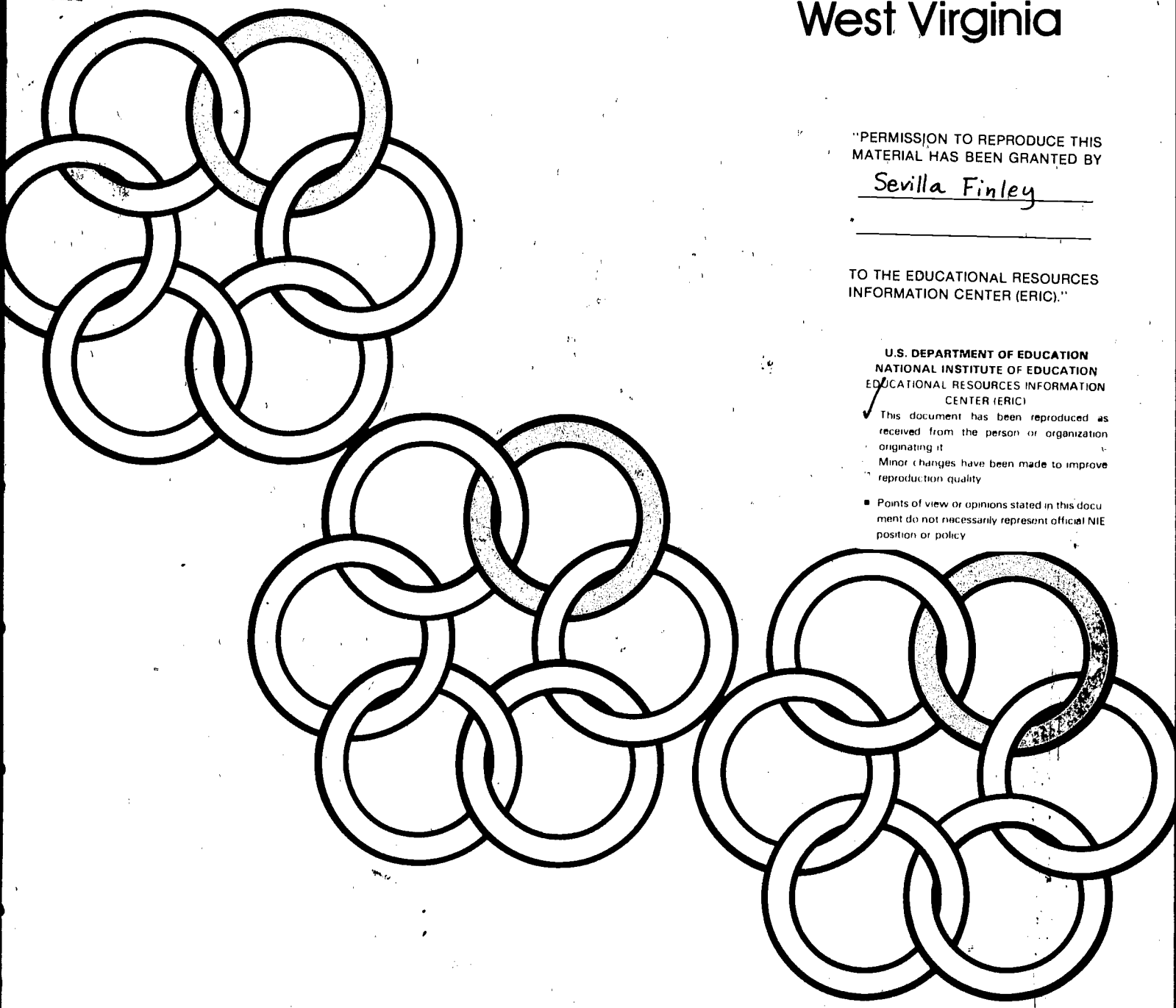
AUTHOR Meehan, Merrill L.
TITLE Evaluation of the Stallings Classroom Management Staff Development Demonstration Project in Putnam County, West Virginia.
INSTITUTION Appalachia Educational Lab., Charleston, W. Va.
SPONS AGENCY National Inst. of Education (ED), Washington, DC.
PUB DATE Nov 81
NOTE 95p.; For related document, see SP 021 753.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS Behavior Change; Change Strategies; *Classroom Techniques; Data Collection; *Demonstration Programs; Educational Innovation; Elementary Secondary Education; Formative Evaluation; *Inservice Teacher Education; *Program Evaluation; Staff Development; Summative Evaluation; *Teacher Behavior; Teacher Effectiveness; *Teacher Improvement; Teacher Response
IDENTIFIERS *West Virginia (Putnam County)

ABSTRACT

An evaluation is presented of the Stallings Classroom Management Staff Development Demonstration Project, designed to increase student achievement in basic skills through the use of research-based, systematic change in teachers' classroom management and organizational techniques. One objective of the evaluation was to utilize techniques and to administer a set of instruments to assess their utility for future evaluations. Process evaluation methods focused on teachers' feelings about the demonstration project, their concerns about the innovations, and evaluative comments made by involved teachers at the project's conclusion. Product evaluation focused on the pre-/post-test changes in teachers' perceived responsibility for student achievement, ratings on the teachers' levels of use of the innovation, and the teachers' pre-/post-test intervention changes in "correct implementation" of specific classroom teaching behaviors. Following an executive summary of the project, chapter 2 of this report outlines the purpose and objectives of the staff development program. Chapter 3 describes the evaluation design, the data collection instruments, and the data collection and analysis procedures of the evaluation. Process and product evaluation results are presented in the fourth and fifth chapters. Data displays and narrative copy are used to clarify evaluation results. The sixth chapter presents conclusions and recommendations based on the evaluation study. (JD)

Evaluation of the Stallings Classroom Management Staff Development Demonstration Project in Putnam County, West Virginia



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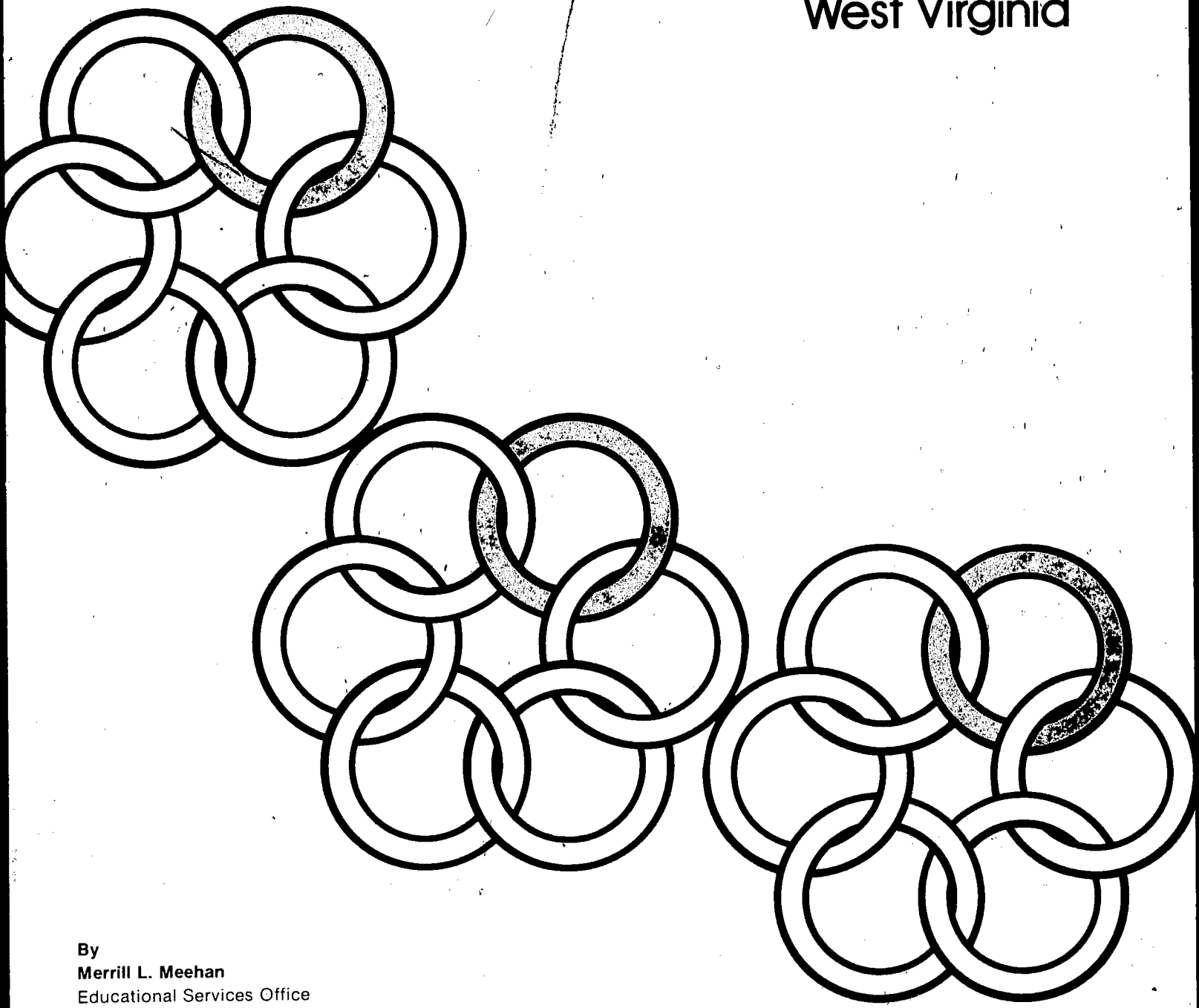


By
Merrill L. Meehan
Educational Services Office

November 1981

Appalachia Educational Laboratory

The project presented or reported herein was performed pursuant to one or more contracts and/or grants from the National Institute of Education, of the U.S. Department of Education. However, the opinions expressed herein do not necessarily reflect the position or policy of the Appalachia Educational Laboratory or the National Institute of Education, and no official endorsement by the Appalachia Educational Laboratory or the National Institute of Education should be inferred.

TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

LIST OF TABLES

LIST OF TABLES (continued)

LIST OF FIGURES

ACKNOWLEDGEMENTS

The cooperation of many persons was essential to the completion of this evaluation. The author is indebted to the Putnam County teachers involved in the demonstration project for trusting me with information and reactions which will lead to the refinement of the staff development program.

Special acknowledgement is due the ad hoc management team for the demonstration project. A special thanks is due Joseph C. Basile, II, for his leadership in completing the project. To Debra K. Sullivan, a special thanks is extended for exemplary orientation to task and interest in utilization of the evaluation findings. Finally, a very special thanks is due Kenneth R. Higginbotham for opening his schools to the innovation and this inspection. His interest in the collection and reporting of objective data for decision-making is a model for other public school administrators.

A sincere note of appreciation is given to Joe E. Shively for his assistance in the statistical analyses and his critical review of the draft copy of this report.

An expression of gratitude is extended to Kim Cowley whose ability to decipher my steadily deteriorating hand lettering is exceeded only by her facility with the word processing equipment.

M. L. M.
11/7/81

CHAPTER I

Executive Summary

Background

The central purpose of this study was to evaluate the implementation of the Stallings Classroom Management Staff Development Demonstration Project in Putnam County Schools, West Virginia, during school year 1980-1981. The Stallings Classroom Management Staff Development Program is a product of over ten years of research and development in the area of teacher effectiveness and teacher training research. The purpose of the program is to increase student achievement in basic skills through the utilization of research-based, systematic change in teachers' classroom behaviors, especially as these teaching behaviors relate to the management of classroom instruction time and the organization of classroom activities. The demonstration project was implemented at two of the four high schools in Putnam County. Both schools' language arts faculties were involved (N=11).

Evaluation Objectives

Four major evaluation objectives were agreed upon by the Superintendent of Schools and the evaluator. The four objectives were: (1) to conduct a process and product evaluation of the implementation of the Stallings Classroom Management Staff Development Demonstration Project in Putnam County, West Virginia; (2) to utilize techniques and to administer a set of instruments in the evaluation and assess their utility/results for future evaluations in the county; (3) to make data-based recommendations regarding future implementation of the project and communicate same to the Superintendent; and (4) to share the results of the evaluation with educators at all levels.

Evaluation Methods

This evaluation of the Stallings staff development program in Putnam County Schools utilized both process and product evaluation methods. Process evaluation focused on project teachers' expressed reactions/feelings as the demonstration project unfolded, teachers' concerns about the innovation, and evaluative comments made by the involved teachers during taped interviews at the conclusion of the project. Product evaluation focused on the pre-post-test changes in teachers' perceived responsibility for student achievement in the classroom, ratings on the project teachers' Levels of Use of the innovation, and the demonstration project teachers' pre-posttest intervention observation changes in "correct implementation" (as defined by the program) of specific classroom teaching behaviors. Also, selected administrators were interviewed at the conclusion of the demonstration project to determine their reaction to the project.

Process Evaluation/Results

On a scale of "+3" to "-3," the teachers' expressed reactions/feelings moved upward from an initial +0.5 through -0.1 and ended up at +1.6. The lowest reaction/feeling score was for the point in time just after the first

teacher training workshop in which they received their individual teacher behavior profile charts. For both schools' teachers combined, the most intense concern was Informational at the 88th percentile. Across the schools, only Stage Two--Personal--produced a significant difference with that difference being in two specific items. A total of 685 evaluative comments were gleaned from the eleven teachers' interview tapes. Of those, 490 were coded as positive comments and 195 were coded as negative.

Product Evaluation Results

There was a significant difference in the positive direction for the teachers' expressed responsibility for student achievement before and after the staff development demonstration project. Post-project Levels of Use ratings showed the group to include eight innovation users and three non-users. A total of 19,885 teacher-focused interactions were coded from the pre- and post-observations. It was determined that the teachers' pre-post-observations of correct implementations (as defined by the program) of specific teaching behaviors changed significantly in the positive direction. The mean number of pre-observation correct implementations of recommended teaching behaviors (N=45) was 21.73 while the post-observation mean was 30.82, an increase of nine correct implementations. A new measure, the Teaching Behaviors Change Index (TBCI) was conceived by this evaluation. Ten of the eleven teachers' TBCI values were positive. Generally, the two high school principals, the teacher trainer, and the Superintendent of Schools voiced positive reactions to the demonstration project during interviews. The teacher trainer provided seven specific recommendations for improvement in the program's processes.

Recommendations

Results of this evaluation show that the Stallings Classroom Management Staff Development Project implemented in Putnam County Schools in 1980-1981 was a success. Nothing was discovered in the evaluation of the demonstration project to discourage its continued use and, resources permitting, its expansion. Some recommendations for slight refinement in the program include: (1) expand the classroom observations to five class periods per set, (2) spread these five class observations over a two-week time period, (3) do not distribute the teacher behavior profile charts until the second teacher training workshop, and (4) expand the number of workshops to six to accommodate the previous recommendation. It was recommended that a planned and coordinated information program about the staff development project be designed and implemented including a program/project logo, an informational brochure, awareness meetings, newspaper articles, and other activities. It was recommended that Putnam County Schools seek self-sufficiency with the program through training a local "apprentice" and purchasing the optical scanning and data analyses programs. It was recommended: (1) to monitor continuously the staff development program and including a comparison group of teachers in the design, (2) to develop a criterion-referenced achievement data base, (3) to continue to report and display the Teaching Behavior Change Index values, and (4) to communicate the results of this evaluation to other educators at all levels through various means.

CHAPTER II

Introduction

Purpose

The purpose of this investigation was to conduct an evaluation of the Stallings Classroom Management Staff Development Demonstration Project implemented in the Putnam County Schools, West Virginia during the 1980-81 school year. Requested by the Superintendent of Schools, the underlying assumption of the evaluation was that the administrators and teachers of the demonstration project could profit from objective analyses of the project's implementation in their schools. Administrators could revise, adjust, or terminate the project based on data from an evaluation of its trial installation, rather than rely on intuition. It was felt that teachers could profit from an outside party's assessment of both the processes they went through and the products of their efforts.

Objectives

Four main evaluation objectives were agreed upon by the Superintendent of Schools and the evaluator. Agreement on these objectives was reached early and then they formed the basis for the design and conduct of the evaluation. The first objective was to conduct a process and product evaluation of the implementation of the Stallings Classroom Managment Staff Development Demonstration Project in Putnam County, West Virginia. The second objective was to utilize techniques and to administer a set of instruments in the evaluation and assess their utility/results for future evaluations of similar programs in the county. The evaluation's third objective was to make data-based recommendations regarding future implementation of the project and

communicate same to the Superintendent. The fourth objective of the study was to share the results of the evaluation with other educators.

Background of the Stallings Classroom Management Staff Development Program

The Stallings Classroom Management Staff Development Program for teachers is the result of continuing research and development conducted by Jane A. Stallings. Much of the research was conducted under various programs and grants received by Stallings and her associates during a ten-year period at SRI International, Menlo Park, California. The work on disseminating, expanding, and refining the staff development program continues under Stallings' direction at the Teaching and Learning Institute, a nonprofit corporation centered in Mountain View, California.

The framework and background for the Stallings Classroom Management Staff Development Program rests in the teacher effectiveness research of the late 1960's and the 1970's. Stallings played a continuing role in this strand of educational research. The whole era of the process-product studies (classroom processes--educational products) was organized into several stages--although the stages were not finely defined in time and/or pre-established categories. In the first stage, several major correlational studies were conducted to describe and examine closely actual classroom practices and to relate these documented practices upon student achievement outcomes in the basic skill areas (Stallings and Kaskowitz, 1974; Berliner and Tikunoff, 1979; McDonald and Elias, 1976; Brophy and Evertson, 1976; Soar and Soar, 1972; and Good and Grouws, 1977). These studies were conducted at the elementary school level. This stage of teacher effectiveness research produced dependable knowledge of the relationships between teachers' behaviors and student outcomes as measured by standardized achievement

instruments. The direct instruction model and the concept of students' time-on-task are the most widely known outcomes of these early studies (Rosenshine, 1979).

The second stage in the teacher effectiveness line of research which serves as the basis for the Stallings staff development program was the application of the design, methodologies, and techniques of the first stage to secondary-level classrooms. Here, the results were similar to the elementary level studies regarding the direct instruction model (Stallings and others, 1978; Anderson, Evertson, and Brophy, 1979). In some of these studies, methodological improvements were realized. The time-on-task concept was refined to include further operational concepts and definitions. Stallings (1980) refined the time-on-task activities by dividing them into interactive instructional activities and noninteractive instructional activities.

In the third stage a series of field studies or quasi-experiments were conducted by the same sets of conceptually similar but operationally separate teams of researchers. The common purpose of these studies was to test the applicability of the previous research results as major components in teachers' inservice training. Generally, these studies (1) produced statistically significant changes in key teaching behaviors, and (2) favored the treatment teachers over the comparison teachers in producing student learning gains on standardized achievement tests (Stallings, Needels, and Stayrook, 1979; Anderson, Evertson, and Brophy, 1979; Crawford and others, 1978; and Good and Grouws, 1977). Results from these field studies or quasi-experiments reinforced the previous research in identifying correlations between classroom processes such as specific teaching behaviors and student

achievement outcomes. Thus, more evidence of linkages between classroom teaching behaviors and student achievement was gained.

We are now in the fourth stage in teacher effectiveness research. However, by stating that the research is in the fourth stage now is not to say that the other stages have been completed--there are no fine lines separating the various stages and teacher effects research may never be complete. This fourth stage may be thought of as the dissemination stage. The purpose at this stage is to make the results of tested aspects of teacher effectiveness research available to educational practitioners so that they might utilize the results of educational research in improving instructional practices in schools. For example, teacher effectiveness researchers at The University of Texas R & D Center for Teacher Education, Austin, Texas, have disseminated their work on classroom organization and management. They have published a series of research reports (1981), a teacher training videotape, and a teacher training manual at the elementary level (Evertson, Emmer, Clements, Sanford, Worsham, and Williams, 1981). Further, they have responded to requests from the field by conducting numerous dissemination workshops/ seminars across the country (Sanford, Clements, and Emmer, 1981).

Stallings took a slightly different route to disseminating her Classroom Management Staff Development Program. In 1979 she submitted to the Joint Dissemination Review Panel (JDRP) to have the program validated based upon the rigorous criteria established by the JDRP (Stallings, 1979). At that time the program was labeled "The Process of Teaching Basic Reading Skills in Secondary Schools." The submission was approved by JDRP. As a function of JDRP approval, the program became eligible for National Diffusion Network (NDN) funds to become a developer/demonstrator (D/D) project. Being JDRP approved, the Stallings program was listed in the catalog of

approved projects called Educational Programs That Work (1980). Interested educational practitioners contact the program developers and the D/D can provide more awareness materials and/or inperson presentations.

To facilitate actual replications of the program in other settings, Stallings designed an "apprenticeship system." Stallings and her associates trained carefully selected candidates in both the classroom observation system and the teacher training system. These "apprentices" then returned to their home agencies to install the model. The apprentice's work was monitored by Stallings through tape recorded sessions, written reports on the teacher training sessions, and other means. After the system had been in place for one year and judged satisfactory, the apprentice was "approved" and eligible to train other, new apprentices in other agencies. Thus, the Stallings system expands with carefully selected and approved teacher trainers. A description and assessment of the implementation of the Stallings Classroom Management Staff Development Program in an urban school system is provided by Ghory and Cash (1981).

Description of the Stallings Classroom Management Staff Development Program

The Stallings Classroom Management Staff Development Program is a product of over ten years of research and development in the area of teacher effectiveness and teacher training research. A rather comprehensive chronology of events in this continuing research, up until 1977, was provided in Learning to Look: A Handbook on Classroom Observation and Teaching Models (Stallings, 1977). More recent references have been cited earlier in this report.

The central purpose of the Stallings Classroom Management Staff Development Program is to increase student achievement in basic skills through the utilization of research-based, systematic change in teachers' classroom

behaviors, especially as these teaching behaviors relate to the management of classroom instruction time and the organization of classroom activities.

Stallings (1981) provides a capsule description of the two key elements in her classroom management staff development program:

> Every staff development model contains a curriculum and a delivery system. Curriculum means the content and delivery means where, when, how, and number of participants. A good content with poor delivery, or vice versa, is not likely to be effective in bringing about change in teacher behavior.
>
> The goal of the Teaching and Learning Institute's training program is to help teachers learn to manage their classroom time effectively. The curriculum is based upon research findings. The delivery system is personalized instruction and interactive small group problem solving (page 6).

Each element shall be discussed in turn.

The content of the Stallings Classroom Management Staff Development Program is derived from research funded over a period of years by the National Institute of Education (NIE). The research-based content of the Stallings program involves two essential processes. The first process is the systematic collection of classroom data through the use of a multi-component, low-inference observation system. The Secondary Observation Instrument (SOI) is the heart of the data collection system (Stallings and Needels, 1981). The SOI provides a convenient method for recording objective data on the interactions within classrooms. These interactions are teacher-based primarily but do include student grouping patterns and teacher aide activities.

The Identification and Classroom Information component is the first part of the SOI. It is coded only once during a class period. This component records identification information necessary for optical scanning and data processing. Information on the teacher, grade level, class size, observer information, and the observation date are recorded.

The Classroom Snapshot is the second component of the SOI. The Classroom Snapshot is a one page form which records the mental picture of the total classroom with all its students and adults, what they are doing, and with what materials at one point in time. It is analagous to a "Polaroid picture" only in data coding terms. The Snapshot, as it is commonly called, is completed five times during each classroom observation (class period) session. The Snapshot records every person's whereabouts and involvement at that one instant.

The third component of the SOI is the Five-Minute Interaction (FMI). The FMI records the verbal interactions and activities as they transpire in the classroom during the timeframe of this part of the observation. FMI data are coded into the four columns of who, to whom, what, and how. In the FMI part of the SOI, the teacher is the focus of the coding. Coded for five minutes following the completion of each Snapshot, the five FMIs yield approximately 300 verbal interactions for each observation session. When assembled and combined in a regular pattern, the component parts of the SOI form a booklet.

In the Stallings Classroom Management Staff Development Program, classroom observations are conducted for three consecutive days in the same class period--selected ahead of time by the teacher as the "target" class. Thus, in addition to the identification data, a total of 15 Classroom Snapshots and approximately 900 verbal interactions are recorded per each class.

Data analysis is the next step. The completed SOI data collection booklets are mailed to a firm in Minnesota for optical scanning. A magnetic data tape is produced holding the SOIs' raw data. These computer tapes are forwarded to the Teaching and Learning Institute where the data analyses are performed. Under Stallings' direction, a series of data analyses programs were developed which records, analyzes, aggregates, and displays the SOI data. The results are computer-generated "profiles" of teacher behaviors.

One teacher profile is geared to the Snapshot variables while the second is geared to the FMI variables. The teacher behavior profile charts produced at this stage include the naming of 45 teaching variables such as: adult to individual student, student reading aloud, adult praise/support, total practice drill, total silent reading, and all social comments. The computer-generated teacher profile charts graphically depict the relative position of the subject teacher in comparison to the mean of the total group observed and simple recommendations of "More" or "Less" are made. These "More" and "Less" recommendations to the teacher are based on research findings regarding student achievement outcomes derived from research yielding four levels of student achievement gain/no-gain as measured by a norm-referenced instrument. These teacher profiles and recommendations for teacher behavior changes are the content of the teacher training workshops which will be explained in the following paragraphs.

The delivery system in the Stallings Classroom Management Staff Development Program is "personalized instruction and interactive small group problem-solving" (Stallings, 1981). Groups of teachers attend a series of workshops after the initial observations have been completed, data analyzed, and teacher profiles generated. Workshop sessions are conducted one week apart. The workshop sessions are interrelated but each one has its own topic and content. The workshop sessions are process-oriented in that the small group of teachers (usually 5-7) are encouraged to offer, discuss, try, and provide feedback regarding new teaching behaviors, techniques, and instructional activities. Workshop materials, including a packet developed by the Teaching and Learning Institute and additional materials selected by the teacher trainer, are prepared ahead of time, but the teacher trainer primarily acts as group facilitator. The focus of the workshops is to present

recommendations for teacher behaviors based on educational research findings; to identify, locate, and discuss these various teacher behaviors among the group members; to help teachers to implement teaching changes in their classroom; and to provide feedback to individuals and the small group.

In addition to more complete descriptions of the Stallings Classroom Management Staff Development Program contained in the references cited previously, there is a companion volume to this report which describes the program in greater detail (Sullivan, Basile, and Higginbotham). The companion narrative report describes the implementation of the Stallings Classroom Management Staff Development Program in the Putnam County Schools, West Virginia.

CHAPTER III

Evaluation Procedures

The central purpose of this study was to evaluate the implementation of the Stallings Classroom Management Staff Development Demonstration Project in Putnam County Schools, West Virginia. The previous chapter presented the background and the description of the Stallings Classroom Management Staff Development Program in brief. The purpose of this chapter is to present the data collection procedures of the evaluation effort.

The first objective of the demonstration project was to "Install, monitor, evaluate, and reconceptualize a demonstration site in Putnam County for the Stallings Classroom Management Staff Development Model" (project records). This evaluation addresses directly the "evaluate" part of the objective and, further, the recommendations provide input for the reconceptualization portion of the objective.

Evaluation Design

This evaluation effort fits into the "decision-making" category of major models of evaluation as explicated by Worthen and Sanders (1973). The major proponent and the classic reference on this model is Stufflebeam and others (1971). In this model the evaluation is structured by the information needs of the decision-maker. In this case, the decision-maker was the Superintendent of Putnam County Schools, West Virginia. Therefore, the evaluator met with the Superintendent to develop a plan to supply information which would help him make decisions about the project.

The Putnam County demonstration project of the Stallings Classroom Management Staff Development Program was just that--a one-time demonstration project. It was decided that the primary focus of the evaluation was to

study the effects of the implementation on the teachers involved. The secondary focus was the demonstration sites' building principals and the project's teacher trainer (labeled the Stallings apprentice in previous sections, but switched now to the more accurate and descriptive term). Discussions between the Superintendent of Schools and the evaluator determined that the most important information need rested in the area of the impact of their involvement in the project on the "subject" teachers both in terms of the processes they went through and results of their involvement. In this sense, then, the evaluation was divided into a process evaluation and a product evaluation. Figure 1 is a graphic of the evaluation design and its instruments. Note, though, that these two designations of process and product evaluation differ from the traditional use of these terms in evaluation literature. To recapitulate, within this evaluation report, process evaluation shall mean assessing teachers' involvement in the demonstration project's various activities while product evaluation will assess the impact of these activities upon the involved teachers.

Sample

The demonstration project was implemented at two of the four high schools in Putnam County. The selected schools' language arts education faculties were asked to participate in the demonstration project as one element in their continuing professional development. The language arts education faculty at one high school numbered four teachers while the other school's language arts education faculty numbered seven teachers. These 11 teachers were the subjects for this evaluation's data collection. Given the small number of demonstration project teachers (necessarily due to the delivery system of the program), it was decided to collect data from all teachers.

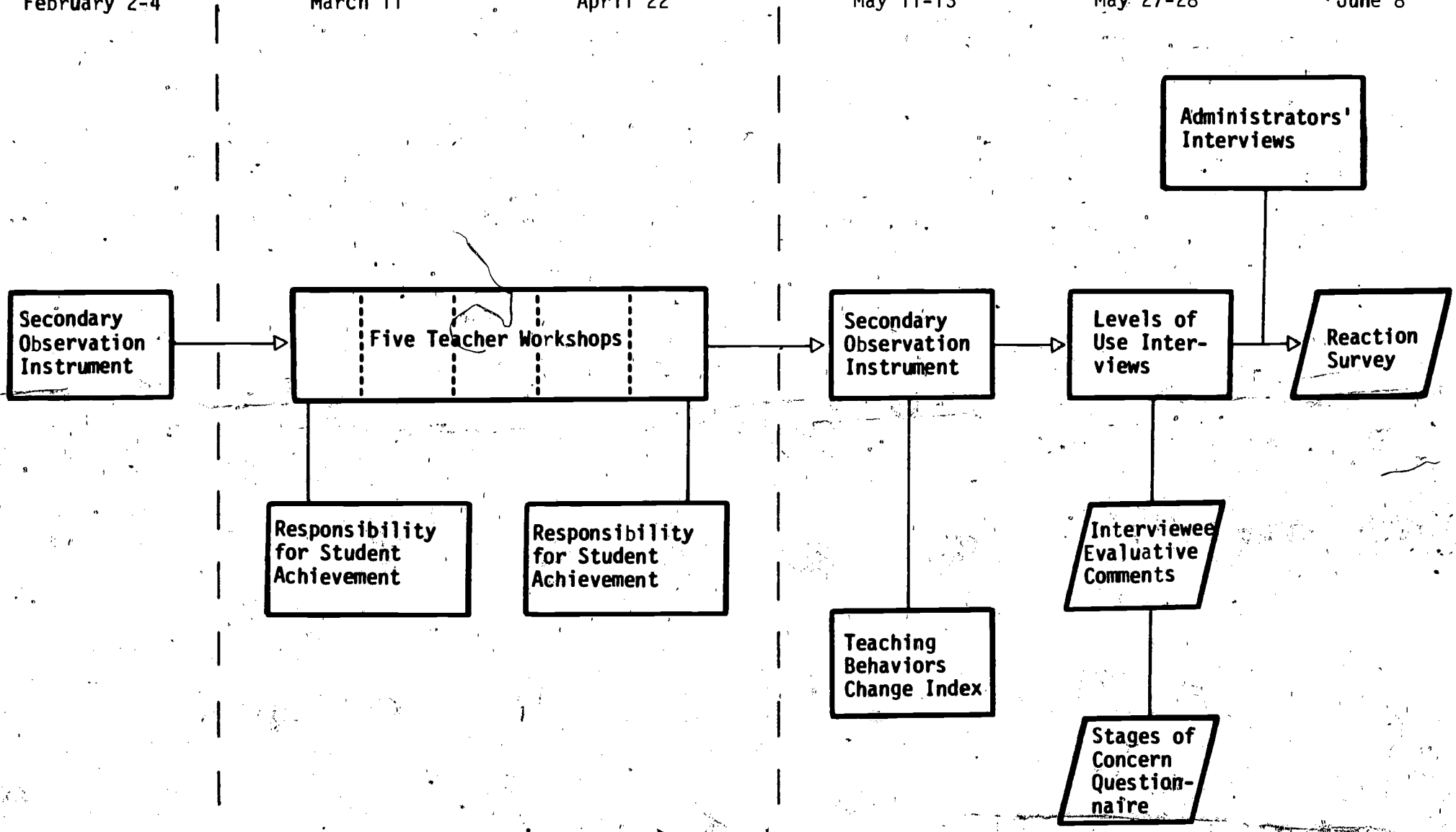


Figure 1

Graphic of Evaluation Design and Instruments

Also, additional perceptions-type data were collected from the two school principals, the project's teacher trainer, and the Superintendent of Schools.

Table 1 presents the demonstration project teachers' background information. Project teachers included nine females and two males. Their ages ranged from the 20-29 age category to the 50-59 age category although nearly 64 percent were in the 30-39 category. The total number of years of teaching experience ranged from 2 to 13 years with four teachers (36%) having either four or five years of experience. The number of years the teachers had taught at their present schools ranged from one to nine although, interestingly enough, four teachers (36%) were completing the first year at their school.

Process Evaluation Instruments

Two instruments were employed specifically to collect process evaluation data while one instrument served to collect both process and product data. Each shall be described in turn.

Reaction Survey. Measurement of the teachers' reactions to the demonstration project's various activities from start to finish were elicited by the locally-developed Reaction Survey. This Reaction Survey was administered at the conclusion of the project. The Reaction Survey was a simple one-page self-report form with the 12 spaces to be filled in with statements from the teachers. Each space included an important event phrase as a stimulus item. Teachers were asked to respond to the stimulus items by writing in their reactions and/or feelings at that particular time. A copy of the Reaction Survey appears in Appendix A. In essence, the Reaction Survey was an instrument soliciting post-project reactions/feelings from participants about the major events in the sequence of project activities. The advantage of this technique was that the teachers had time to put all the various events and their reactions into a total perspective after the project was completed.

Table 1

Project Teachers' Background Information (N=11)

Item	Number	Percent
Sex:		
Male	2	18.2
Female	9	81.8
	11	100.0
Age Category:		
20-29	2	18.2
30-39	7	63.6
40-49	1	9.1
50-59	1	9.1
	11	100.0
Total Years Teaching:[a]		
1	0	0
2	1	9.1
3	1	9.1
4	2	18.2
5	2	18.2
6	0	0
7	0	0
8	1	9.1
9	1	9.1
10	1	9.1
11	1	9.1
12	0	0
13	1	9.1
	11	100.1[c]
Number Years at Present School:[b]		
1	4	36.4
2	2	18.2
3	2	18.2
.	.	.
.	.	.
.	.	.
8	2	18.2
9	1	9.1
	11	100.1[c]

[a]Mean = 6.73

[b]Mean = 3.50

[c]Does not equal 100 due to rounding

The teachers' Reaction Survey was developed by the evaluator in cooperation with the teacher trainer. A check of the demonstration project's calendar and events produced the "first cut" of significant events in the implementation of the project. This initial list was checked by the teacher trainer for accuracy. Consensus was reached between the two individuals on the final list of events used as stimulus items. Thus, the Reaction Survey possessed a degree of face validity (Issac and Michael, 1971). The utility of the Reaction Survey as a device to gather reactions, over a period of time, to a project's major events had been determined previously by Meehan and Basile (in press). Scoring the Reaction Survey consisted of the evaluator reading carefully the various prose descriptions for each teacher's instrument, mentally "feeling" the global range of reactions, then rereading each individual section and assigning a point value to it. The point values ranged from a "+3" or "Very Positive," through "0" denoting a neutral value, to a "-3" denoting a "Very Negative" reaction. The evaluator's assignment of point values to prose statements was checked by an independent evaluator. There was high initial interrater agreement between these two persons on most items. Then they discussed each area of nonagreement until consensus was reached on each section of each teacher's Reaction Survey. The result was 100% interrater agreement. However, no other reliability checks were completed and readers should interpret the resultant data with this caution in mind.

Stages of Concern Questionnaire. The Concerns-Based Adoption Model (CBAM) is a conceptual framework for describing, assessing, and facilitating change in schools and colleges. The foundation document in the CBAM framework is by Hall, Wallace, and Dossett (1973). Based on the earlier work of Frances Fuller (1969), the CBAM is a research-based system for studying

teacher changes in terms of their concerns and behaviors, as they are involved in an educational innovation. Fuller proposed three phases of concern: self, task, and impact.

Stages of Concern (SoC) is one dimension of the CBAM (Hall, George, and Rutherford, 1979). These authors devoted a section of their report to identifying and describing teachers' "concerns" (pages 4-5). One paragraph particularly conveys the concept of concerns:

> The composite representation of the feelings, preoccupation, thought, and consideration given to a particular task is called concern. ...the mental activity composed of questioning, analyzing, and reanalyzing, considering alternative actions and reactions, and anticipating consequences is concern. An aroused state of personal feelings and thought about a demand as it is perceived is concern (page 5).

These writers also stated that it is the person's perceptions that stimulate concerns--"not necessarily the reality of the situation" (page 5).

Research conducted at the Research and Development Center for Teacher Education at The University of Texas at Austin over the past eight years has identified, assessed, confirmed, and documented the concerns dimension of the CBAM. CBAM researchers have monitored teachers' concerns in cross sectional and/or longitudinal studies of 11 different educational process and product innovations. Their research has confirmed that there are usually differential degrees of arousal or concern with regard to the innovation. Individuals regard certain demands of the innovation as more important than others at a given time. Thus, "the degree of arousal (intensity) of the different types of concerns will vary" (Hall, George, and Rutherford, 1977, page 5). Additionally, these researchers state that "there appears to be a predictable pattern to the movement of intensity of concern across types" (page 5).

The CBAM researchers have identified seven different stages of concern about innovations under study. They confirmed, after many studies, that

"there is developmental movement through these stages" (Hall, George, and Rutherford, 1977, page 6). Their research shows that certain types of teachers' concerns "will be more intense, then less intense, before arousal of other types will occur" (page 6). Thus, these writers summarize:

> Concerns about innovations appear to be developmental in that earlier concerns must first be resolved (lowered in intensity) before later concerns emerge (increase in intensity). The research suggests that this developmental pattern holds for most process and product innovations (page 6).

Hall, George, and Rutherford stated that teachers' concerns are highly complex and that their resolution is not simple. Possessing more knowledge of, time with, or experiences with an innovation does not guarantee that the teachers' concerns will be reduced or resolved. They maintain that "the process of the arousal and resolution of concerns is highly personal and requires time as well as timely intervention of both cognitive and affective natures" (page 6). They report, though, that their research shows teachers' concerns regarding an educational innovation increased in intensity in the later stages. This suggests that given additional "time, successful experience, and the acquisition of new knowledge and skill," teachers' concerns will develop toward the stages related to impact concerns (page 6).

Table 2 presents the seven identified and verified Stages of Concern about an innovation. This table, provided by the CBAM project, presents the stage number, the name of each stage, and typical teacher expressions of concern about the innovation for each stage. Relating these seven stages back to Fuller's work, stages zero, one, and two relate to teachers' concerns about <u>self</u>; stage three relates to concerns of <u>task</u>; and stages four, five, and six relate to concerns about <u>impact</u> of the innovation.

Table 2

Stages of Concern: Typical Expressions of Concern about the Innovation*

Number of Stage	Name of Stage	Typical Expressions of Concern Per Stage
0	Awareness	I am not concerned about it (the innovation).
1	Informational	I would like to know more about it.
2	Personal	How will using it affect me?
3	Management	I seem to be spending all my time in getting material ready.
4	Consequence	How is my use affecting kids?
5	Collaboration	I am concerned about relating what I am doing with what other instructors are doing.
6	Refocusing	I have some ideas about something that would work even better.

*Source: Procedures for Adopting Educational Innovations Program, Research and Development Center for Teacher Education, The University of Texas at Austin.

The instrument used to measure the seven previously-identified Stages of Concern was the Stages of Concern Questionnaire (SoCQ; Hall, George, and Rutherford, 1979). This instrument is a 35-item paper and pencil device developed over a period of two and one half years at the Research and Development Center for Teacher Education. Each of the 35 stimulus items solicits a response on a seven point Likert scale. Teachers' responses along the Likert scale indicate their degree of concern about the stimulus item. Test-retest study results produced stage score correlations ranging from .65 to .86. Alpha coefficient reliabilities ranged from .64 to .83 with six of the coefficients being above .70. CBAM researchers conducted a series of validity studies which provided additional evidence that the SoCQ does, in fact, measure the hypothesized stages of concern.

Each teacher involved in the study completed the SoCQ instrument at the conclusion of a taped interview (described next). The SoCQ can be scored by a computer program or manually and given the rather small number of teachers the manual method of scoring was chosen. Extra steps were added to help assure accurate scoring and interpretation. First, each teachers' SoCQ was scored manually three separate times by the evaluator with a minimum of two weeks lapse between rescoring sessions. Second, SoC profiles were produced with codes rather than identifying names on them. Third, the evaluator sought and obtained analyses of the SoC profiles from two of the original developers of the SoCQ. These analyses were solicited in order to confirm the evaluator's interpretation of the SoCQ results.

Teachers' Interviews. As part of the product evaluation, a series of structured interviews was held with the project teachers. The details of the focused nature of these interviews will be discussed later. The interviews ranged in time from 12 minutes up to 48 minutes with the average being 29

minutes long. Each cassette tape was reanalyzed a minimum of three times by one rater with a minimum of one week time delay between the listenings. The reason for the time delay was to allow recall of the tapes' content to become unfamiliar (in a cognitive sense) to the evaluator. In this way, each listening session produced "fresh" data which was compared to the previous listening for category coding agreements.

In addition to being used for product evaluation data collection, the tape recorded interviews with the project teachers were reanalyzed in order to collect process evaluation data. During the focused interviews, it was discovered that the teachers made numerous evaluative comments about the Stallings Classroom Management Staff Development Demonstration Project and their involvement in it. Although this was one focus area for the structured portion of the interviews, what actually happened was that project teachers expanded on the topic, given the opportunity, and much more data became available for analysis. After the first reanalysis of the interviews was performed, the results were tabulated in the form of data counts per a preliminary set of evaluative comment categories. Further, they were categorized by school and as positive or negative. The preliminary results were shared with the teacher trainer. The teacher trainer's recommendations were for specific new coding categories and a tally of the number of teachers who provided data for each major category and its subcategories. The coding scheme was revised based on the teacher trainer's suggestions. Then, the interview tapes were reanalyzed at least two more times before the data collection was considered completed. The result was a table of eight major coding categories and a total of 36 subcategories (see Table 7, page 40). Through the interactions with the teacher trainer, the interview tape coding scheme for evaluative comments possesses high usability. The reanalysis of

the teachers' interview tapes produced a coding scheme which seemed to represent the underlying categories. No other types of validity for the coding scheme were obtained or reported. An instrument is said to be reliable when it measures what it purports to measure consistently. A degree of intrarater reliability was achieved in the reassessment of the tapes several times by the single rater with periods of delay in between. One hundred percent agreement was reached for the second and third codings of the tapes. However, no other formal reliability coefficients were computed.

Product Evaluation Instruments

As was the case with process evaluation instruments, two instruments were utilized solely for the product evaluation while one instrument collected both product and process evaluation data. Also, interview schedules were used for product evaluation data. Each product evaluation instrument shall be discussed in turn.

Responsibility for Student Achievement Questionnaire. The Responsibility for Student Achievement Questionnaire (RSAQ) is an instrument designed to measure teachers' perceptions of their responsibility for student achievement in their classes (Stallings, Needels, and Stayrook, 1979). The RSAQ is a 30-item paper and pencil device with a unique stimulus and response format. Each stimulus item is usually an uncompleted declarative statement. For example, item number two's stem is "When your class is having trouble understanding something you have taught, it is usually because..." There are two responses for each stem. To complete the example, the responses for item number two are: "(a) because you did not explain it very clearly," and "(b) because your students are just slow in understanding difficult statements." The teacher is instructed to insert a weight, in percentage terms,

to each of the two choices according to his/her preferences. Again following the example, a teacher may respond 85% to response "a" and 15% to response "b". In every case, both weights assigned to the responses must add up to 100%.

Scoring the RSAQ produces multiple scores. Positive or negative direction is assigned to either response option from the teacher's perspective (responsibility). Scoring the items and adding them results in two scores. The two scores relative to the teacher's responsibility for student achievement are, first, the "teacher positive responsibility" and, second, its residual, the "teacher negative responsibility." For this evaluation, only the "teacher positive responsibility" was utilized, although the other score was computed and is available for later analysis. The RSAQ has proved useful in past projects (Stallings, Needels, and Stayrook, 1979). Face validity for this instrument's use in this particular evaluation was determined by the teacher trainer and the Superintendent of Schools. These two individuals inspected each item on the instrument and its responses in terms of their applicability in the present situation. Both parties agreed that the items and responses on the RSAQ were applicable to the local schools, their classrooms, teachers, students, and events/activities. No formal reliabilities were computed but the hand scoring of the RSAQ was double-checked by another evaluator. This instrument was administered on a pre-posttest basis.

Levels of Use Ratings. The Levels of Use is the second dimension of the CBAM research described earlier. Whereas the Stages of Concern dimension measures the feelings, attitudes, and concerns about teachers' involvement in an innovation, the Levels of Use dimension describes what individuals actually do with an innovation. Eight operationally defined positions regarding teachers' levels of use have been identified from extensive

research (Loucks, Newlove, and Hall, 1975). These various levels represent a continuum from non-use, through mechanical use, refinement, to renewal. Further, seven critical decision points separate the levels and are part of the system. Table 3 presents the Levels of Use, their designations, and behavioral indices of each level.

The eight Levels of Use, as depicted in Table 3, are subdivided further into seven categories of user descriptors producing a 56 cell matrix. These seven categories are knowledge, acquiring information, sharing, assessing, planning, status reporting, and performing. CBAM research has verified that teachers at different Levels of Use of an innovation can demonstrate different behaviors within each category. In summary, the Levels of Use, their categories, and the seven decision points have been assembled into a Levels of Use chart (Hall, Loucks, Rutherford, and Newlove, 1975).

The Levels of Use ratings research and development procedures were conducted over a two year, longitudinal study. Levels of Use interviews were tape recorded and subsequently rated by teams of two CBAM staff members. Resulting interrater reliabilities of the ratings ranged from .87 to .96 (Loucks, 1977). Interrater reliability on the overall Levels of Use ratings was .96, with 73% agreement between the two raters (Loucks, 1977). Validity of the Levels of Use ratings was established using an ethnographic methodology. A correlation coefficient between the interview ratings and a full day of observation of a sample of teachers at all levels of use was .98.

Teacher behaviors related to Levels of Use of the demonstration project were measured by the Levels of Use Ratings. The data source for these Levels of Use Ratings was the focused interviews developed and tested by CBAM researchers (Loucks, Newlove, and Hall, 1975). The purpose of the focused interviews was to solicit sufficient information from teachers involved in

Table 3

Levels of Use of the Innovation: Typical Behaviors*

Designation	Name of Level	Behavioral Indices of Level
0	Non-Use	No action is being taken with respect to the innovation.
I	Orientation	The user is seeking out information about the innovation.
II	Preparation	The user is preparing to use the innovation.
III	Mechanical Use	The user is using the innovation in a poorly coordinated manner and is making user-oriented changes.
IV-A	Routine	The user is making few or no changes and has an established pattern of use.
IV-B	Refinement	The user is making changes to increase outcomes.
V	Integration	The user is making deliberate efforts to coordinate with others in using the innovation.
VI	Renewal	The user is seeking more effective alternatives to the established use of the innovation.

*Source: Procedures for Adopting Educational Innovations Program, Research and Development Center for Teacher Education, The University of Texas at Austin

the innovation in order to place them at a Level of Use with respect to the target innovation. Trained Levels of Use interviewers use a branching format based on the decision points and they probe the categories for specific, behavioral indicators of the interviewee's involvement with the innovation. The length of the focused interviews varies according to several factors and the interviewee may think the event is a casual conversation; however, because of the training process and the fact that the Levels of Use chart is memorized, the original target is never out of focus.

The evaluator was trained in the Levels of Use interviewing procedures. This training included obtaining satisfactory interrater reliabilities with the CBAM staff ratings of common interview tapes. The result of this training and satisfactory interrater reliabilities was certification of this evaluator as a "licensed" Levels of Use interviewer. Also, recall from previous sections that these tape recorded interviews were utilized for the collection of process evaluation data through reanalysis of the tapes.

For this evaluation a demonstration project "user" was operationally defined as a teacher who had internalized a minimum of two variables on the teacher profile chart which should have been considered in lesson planning and performed in subsequent classroom teaching.

Secondary Observation Instrument. Descriptions of the three part Secondary Observation Instrument (SOI) were provided in previous chapters. The SOI is a low-inference category observation system developed over a period of ten years by Jane Stallings and Margaret Needels under a grant from NIE. Putnam County demonstration project coders were trained in the SOI observation system by Stallings and the teacher trainer. This coder training was conducted onsite in Putnam County in an intensive seven day period in January 1981. During the final coder training session, the trainees were evaluated.

This evaluation of SOI coders included: (1) a written examination covering the coding categories, (2) interrater reliability checks, and (3) intrarater reliability checks. Each SOI coder passed the written examination at or above the pre-established criterion score. Interrater reliabilities were based on the coding of videotapes of classroom scenes and oral vignettes. Intrarater reliability checks were conducted using coder-partners observing a practice classroom situation. In both cases, the resulting reliabilities for the six coders ranged from .81 to .91.

Teacher profiles resulting from the Snapshot and the FMI components of the SOI contained the recommendations of "More" or "Less" for each of the 45 aggregated variables based on research findings. These pre-intervention vs. post-intervention comparisons of the "Mores" and "Lesses" produced the number of "correct implementations" of teaching behavior changes per each demonstration project teacher. These "correct implementations" resulting from the intensive observations served as one unit of data for assessing implementation impact.

Administrators' Interviews. As a final measure of both process and product evaluation, selected project personnel were interviewed. Although interview schedules were developed ahead of time, the interviews were casual and open-ended enough as to provide qualitative data from the interviewees. Those demonstration project-related personnel included the two building principals, the teacher trainer, and the Superintendent of Schools. A common core of questions was asked of each interviewee in order to elicit related responses for later analysis.

Data Collection and Analysis

Data collection procedures were rather straightforward. Some of the data collection and analysis procedures were discussed in the previous sections for each instrument. Basically, to avoid duplication of efforts and possible perceptions of "over involvement" of outside personnel, the teacher trainer agreed to administer several instruments in naturally-occurring project events such as the first and fifth small group sessions and the final meeting of the total group. Additionally, the evaluator was introduced to the building principals and the project teachers by the teacher trainer. Following the introductions, the evaluator conducted the Levels of Use interviews and individually administered the SoCQ. The evaluator arranged the interviews with the principals, the teacher trainer, and the superintendent. As discussed earlier, the evaluator and the teacher trainer cooperated to make the interview tape reanalysis efforts more valuable to the total evaluation's usefulness in terms of providing information for decision-making.

Given the small number of project teachers (N=11), most of the data analyses were performed manually. Extra precautions were implemented because of these computation methods. These extra procedures included double and triple checks of the computations by the evaluator. Then, another experienced evaluator checked the evaluation procedures, the data manipulations, and the resultant data displays. One part of the data analysis--those involving the correct implementations of teaching behaviors--was performed by a computer consultant using the Statistical Analysis System package and a custom written program. Actual computer analysis was performed on an IBM 360-90 computer.

CHAPTER IV

Process Evaluation Results

The previous chapter described the evaluation design, the data collection instruments, and the data collection and analysis procedures of the evaluation of the Stallings Classroom Management Staff Development Demonstration Project in Putnam County Schools. Process evaluation was defined as the assessments of the processes and activities experienced by project participants and not the objectives, reports, schedules, etc. typically included in a traditional evaluation of project processes. This chapter will present the process evaluation results via data displays and narratives grouped by the data collection instruments.

Reaction Survey

Results of the administration of the Reaction Survey are presented in Table 4. Data displayed in Table 4 shows that the demonstration project teachers' feelings and/or reactions changed as the project activities unfolded. It should be noted that one teacher did not complete the reaction survey. On the scale of "+3" to "-3", it can be observed that the teachers' initial feelings were collectively at the +0.5 position. As the project activities unfolded, teachers' feelings and/or reactions moved up and down slightly until the second half of the project where their feelings/reactions moved up and reached the highest point value of +1.6 at the end. A paired t-test of the difference between the event number one scores and the event number twelve scores produced nonsignificant results. The lowest mean score of the group was for event number five, After the First Teacher Training Session. This is the session where the computer-generated teacher behavior profile charts were disseminated. These teacher profile charts contained

Table 4

Descriptive Statistics on Teachers' Feelings and/or Reactions as the Project Unfolded (N=10)

Number	Description of Event	Mean[a]	Standard Deviation
1	Before the awareness session	+0.5	1.27
2	After the awareness session	+0.3	1.16
3	Before the first set of observations	-0.1	1.20
4	After the first set of observations	+0.3	1.25
5	After the first teacher training session	-0.2	1.40
6	After the third teacher training session	+0.4	1.51
7	After the final teacher training session	+0.7	1.42
8	Before the second set of observations	+0.9	1.45
9	After the second set of observations	+0.9	1.52
10	Before receiving final profile	+0.7	1.83
11	After receiving final profile	+1.4	1.71
12	Today: 6/8/81	+1.6	1.58

[a]Scoring was from +3 to -3.

the recommendations of "More" or "Less" for changes in teaching behaviors in the classrooms.

Figures 2 and 3 present the same data from the Reaction Survey but displayed much differently. Figure 2 is a graph depicting the teachers' feelings and/or reactions as the project unfolded. Each teacher's response position on the scale for each event is denoted by a solid circle. Further, the group's mean score is plotted on the chart with a line. Thus, the movement of the group's feelings/reactions, as reflected by their prose responses, can be seen easily. The lowest point of their feelings/reactions is shown in the chart as is the slow rise to a final value of a little past the midpoint between +1 and +2. Figure 3, on the other hand, is a chart depicting each teacher's feelings and/or reactions as the project activities unfolded. Here each individual teacher's responses to the stimulus items are depicted by a different type of line. Thus, each individual teacher's self-reported feelings and/or reactions to the project as it unfolded are displayed. This type of display protects the anonymity of the teachers, yet still presents an accurate display of individual responses.

Stages of Concern

Results of the end-of-project administration of the SoCQ are presented three different ways from the most global analysis of data to an item display. Figure 4 displays three Stages of Concern profiles: for each of the two project schools and both schools combined. Displaying the SoC data by the two schools was completed for the superintendent's convenience. The relative intensity of the teachers' concerns are denoted in percentiles on the vertical axis. The seven Stages of Concern are denoted on the horizontal axis.

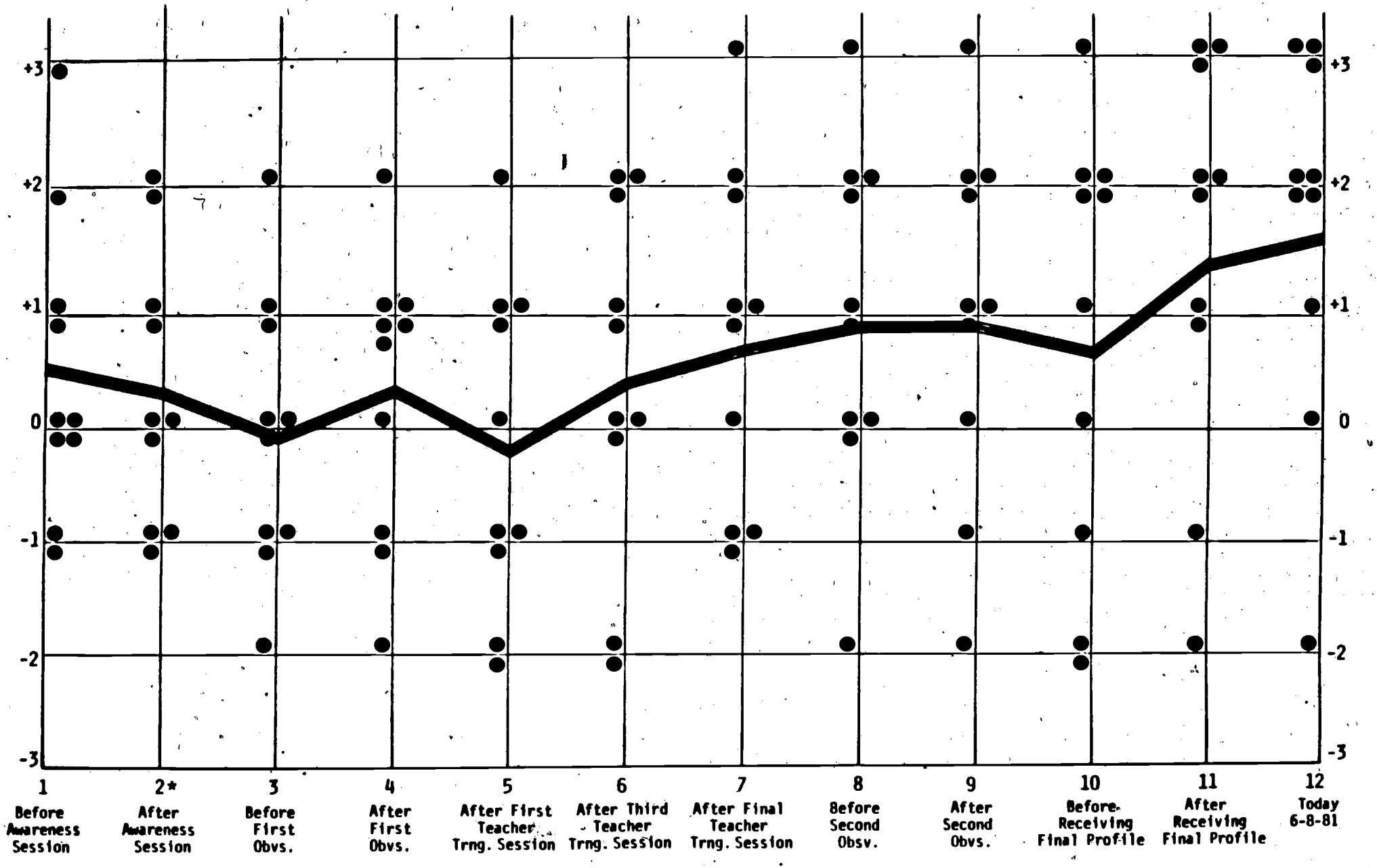


Figure 2

Graph Depicting Teachers' Feelings and/or Reactions as the Project Activities Unfolded

*acing is not proportional time intervals

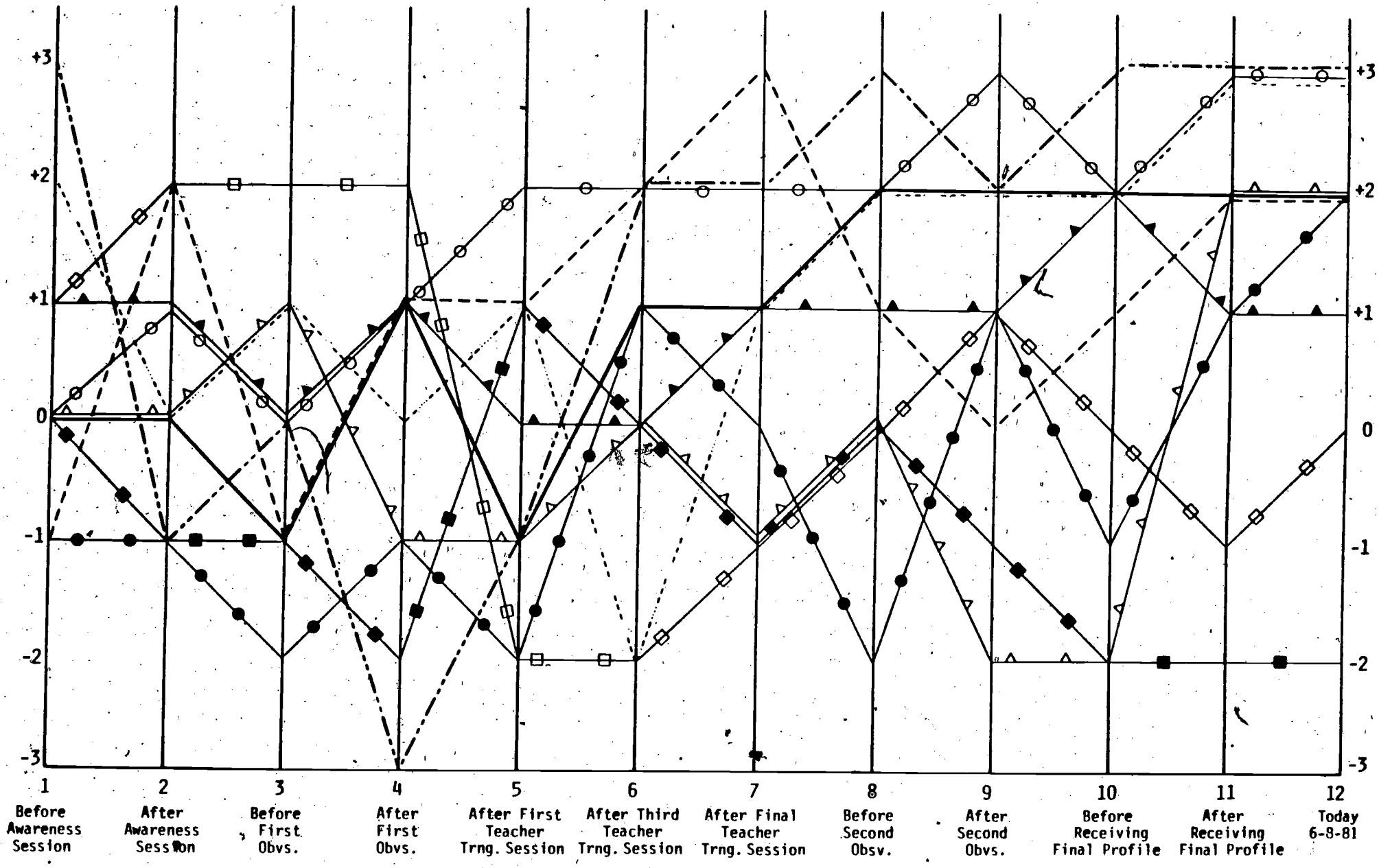
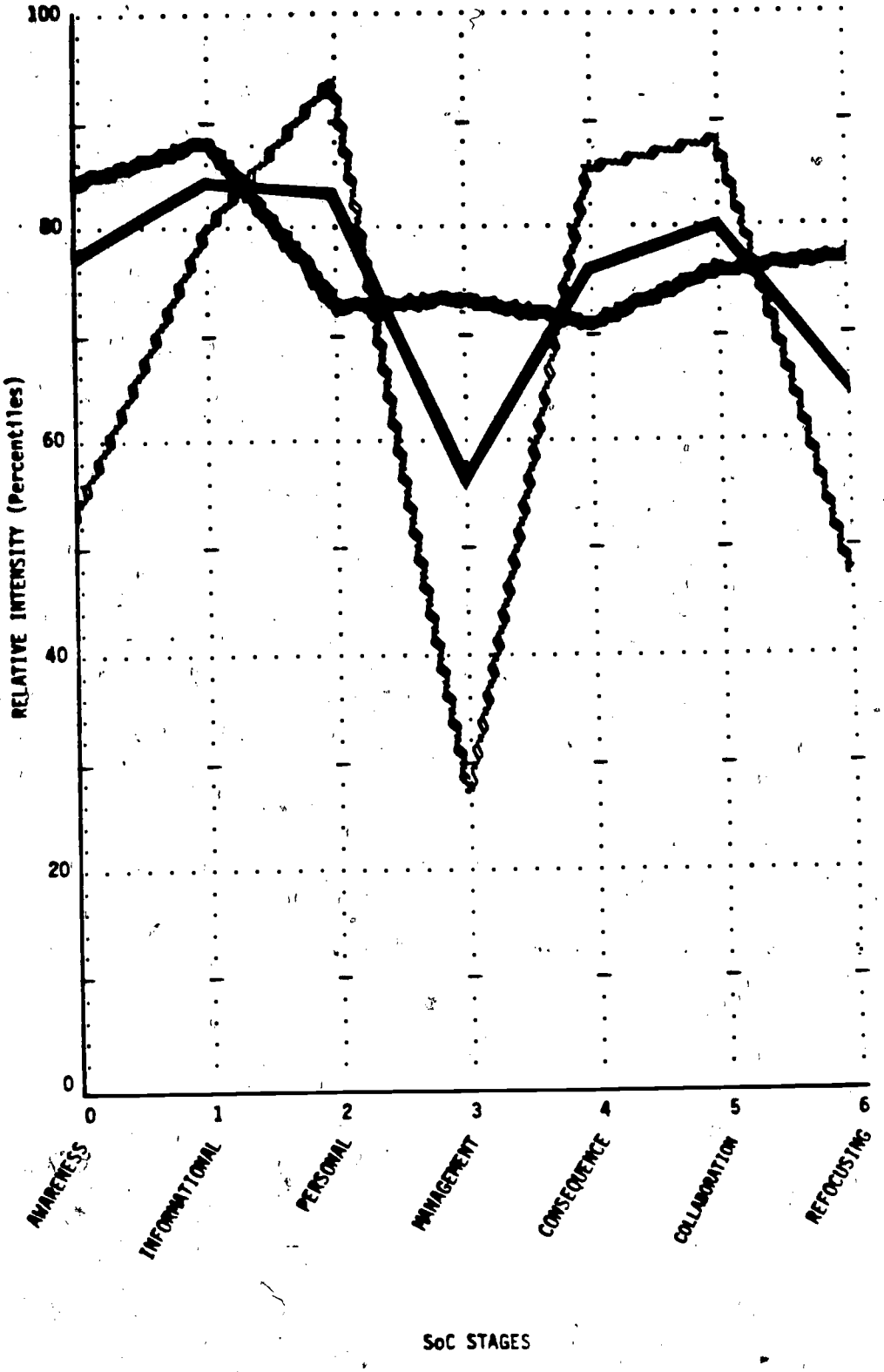


Figure 3

Chart Depicting Each Teachers' Feelings and/or Reactions as the Project Activities Unfolded



KEY: ▬▬ = Both Schools (N=11); ▬▬ = School A (N=7); ▬▬ = School B (N=4)

Figure 4

Profiles of Teachers' Stages of Concerns Regarding the Project

Analysis of the three Stages of Concern profiles are warranted. For both schools' teachers combined, the most intense concern was Informational at the 88th percentile. This indicates an interest in more information about the project. The concern is not so much for details as it is for general information about the innovation. The second most intense concern was Personal at the 84th percentile. This indicates high arousal of ego-centric, personal feelings and attitudes about the project. Concern here is about the status, reward, and effects of the demonstration project on the teacher. Not much lower (80th percentile) was the third most intense concern of Collaboration. This indicates interest regarding collaborating with other teachers relative to the project. Interestingly, the least intense stage was the Management concerns at School B.

Table 5 displays the statistics from the administration of the SoCQ. Shown are means, standard deviations, and percentiles for each school and both schools combined for each stage and the total SoCQ score. Also, the t-values and significance levels for each SoCQ stage and the total SoCQ score across schools are presented. Data in Table 5 show only stage number two--Personal--produced a significant t-value. Inspecting the percentile columns shows teachers in School B had the most intense concerns at Stage Two. Recall that Stage Two concerns deal with the self in relation to the innovation. Here the individual teacher is uncertain about the demands of the innovation, his or her adequacy to meet those demands, and his or her role in the innovation. This includes analysis of his or her role in relation to the reward structure of the organization, decision-making, and consideration of potential conflicts with existing structures or personal commitment (Hall, George, and Rutherford, 1979).

Table 5

Statistics from the Stages of Concern Questionnaire

Number of Stage	Name of Stage	Both Schools (N=11)			School A (N=7)			School B (N=4)			t-value (across schools)	Sig. Level
		Mean	SD	%L*	Mean	SD	%L*	Mean	SD	%L*		
0	Awareness	9.18	5.67	77	11.43	5.71	84	5.25	3.10	53	2.10	NS
1	Informational	23.09	3.99	84	23.71	4.99	88	22.00	0.82	80	0.67	NS
2	Personal	23.73	7.94	83	20.00	6.83	72	30.25	5.25	94	2.59	.05**
3	Management	14.91	10.02	56	19.14	7.82	73	7.50	9.88	27	2.18	NS
4	Consequence	29.91	5.13	76	28.57	5.88	71	32.35	2.63	86	1.17	NS
5	Collaboration	28.00	6.62	80	26.86	8.11	76	30.00	2.45	88	0.28	NS
6	Refocusing	20.45	7.35	65	22.71	7.20	77	16.50	6.61	47	1.42	NS
	TOTAL SCORE	149.27	18.57	86	152.42	19.64	89	143.85	17.71	83	0.73	NS

*Denotes percentile.

**$t_{.05}(9) = 2.26$

Table 6 presents the comparisons of SoCQ, Stage Two (Personal) items across the two schools. The five items making up Stage Two are presented together with their means, standard deviations, t-values, and significance levels. Data in Table 6 shows that SoCQ items 7 and 33 produced significant t-values. In both cases, the School B teachers' concerns were significantly higher than School A teachers' concerns. School B teachers expressed significantly higher concern score means on these two SoCQ items:

7. I would like to know the effect of reorganization on my professional status.

33. I would like to know how my role will change when I am using the innovation.

Both of these Stage Two items are related in that they deal with the position of the individual in the organization. These items mention either professional status or role change. Inspection of Table 6 shows the faculty of School B to be significantly more concerned about the effect of the demonstration project on their professional status and role within the organization.

Teachers' Evaluative Comments

Table 7 displays the results of the coding of the teachers' interview tapes for assessment and evaluation comments regarding their participation in the demonstration project. Data are presented in eight major categories and 36 subcategories derived from several listenings and discussions of usefulness with the teacher trainer. Teachers' evaluative comments are presented in Table 7 by the school, whether they were primarily positive or negative, the number of teachers indicating, and the number of separate mentions per each subcategory response.

A total of 685 evaluative comments were gleaned from the eleven teachers' interview tapes. School A faculty provided a total of 562 of those comments

Table 6

Comparison of SoC Questionnaire, Stage Number 2 Items Across Schools

SoC Item No.	SoC Statement*	School A (N=7) Mean	SD	School B (N=4) Mean	SD	t-Value	Sig. Level
7.	"I would like to know the effect of reorganization on my professional status."	2.43	1.99	6.25	0.50	3.71	.01**
13.	"I would like to know who will make decisions in the new system."	3.71	2.69	4.25	2.75	0.51	NS
17.	"I would like to know how my teaching or administration is supposed to change."	3.86	2.61	6.50	1.00	1.32	NS
28.	"I would like to have more information on time and energy commitments required by this innovation."	5.43	2.30	3.25	2.63	-1.45	NS
33.	"I would like to know how my role will change when I am using the innovation."	4.57	1.81	6.75	0.50	2.32	.05**

*Copyright, 1974, Procedures for Adopting Educational Innovations/CBAM Project, Research and Development Center for Teacher Education, The University of Texas at Austin.

**$t_{.05}(9) = 2.26$
$t_{.01}(9) = 3.25$

Table 7

Coding of Teachers' Evaluative Items from Interview of Tapes (N=11)

Teachers' Assessment Information: Categories and Subcategories	School A (N=7)				School B (N=4)			
	Positive		Negative		Positive		Negative	
	No. of Teachers Indicating	No. of Separate Mentions (%)[a]	No. of Teachers Indicating	No. of Separate Mentions (%)[a]	No. of Teachers Indicating	No. of Separate Mentions (%)[a]	No. of Teachers Indicating	No. of Separate Mentions (%)[a]
A. Workshops								
1. Workshop leader as a person	6	10 (2.7)						
2. Workshop leader's content knowledge	6	9 (2.4)			2	3 (2.5)		
3. Workshop leader's strategies	7	10 (2.7)	3	18 (9.4)	3	6 (5.0)		
4. Atmosphere in workshop	2	3 (0.8)						
5. Content of workshops, including activities related to variables	7	30 (8.1)	1	1 (0.5)	4	20 (16.8)		
6. Handouts and resources:								
(a) Immediate usefulness/applicability	6	25 (6.7)	6	19 (9.9)	3	12 (10.1)		
(b) Future usefulness/applicability	5	29 (7.8)	1	1 (0.5)	4	9 (7.6)		
7. Teacher Behavior Profile Charts:								
(a) Distribution at first workshop			3	10 (5.2)				
(b) Interpretation of	4	22 (5.9)	5	17 (8.9)	2	6 (5.0)		
(c) Usefulness of	6	24 (6.5)	3	5 (2.6)	2	5 (4.2)		
(d) Attitudes toward	3	10 (2.7)	7	16 (8.4)	2	2 (1.7)		
8. Future implementation of processes	2	7 (1.9)	1	1 (0.5)				
SUBTOTAL		179 (48.2)		88 (46.1)		63 (52.9)		0 (0.0)
B. Timing								
1. Weekly scheduling of workshops			3	21 (11.0)				
2. Project start date in relation to school year	2	3 (0.8)	6	17 (8.9)			2	3 (75.0)
SUBTOTAL		3 (0.8)		38 (19.9)		0 (0.0)		3 (75.0)
C. Coders and Coding								
1. Observer/coder selection process	3	12 (3.2)						
2. Presence of coders in classroom	3	9 (2.4)	1	1 (0.5)				
3. Coding/observation process	5	19 (5.1)	4	20 (10.5)				
SUBTOTAL		40 (10.7)		21 (11.0)		0 (0.0)		0 (0.0)
D. Sharing Information, etc.								
1. Opportunity to meet as a subject area faculty	6	16 (4.3)			1	3 (2.5)		
2. Sharing during workshops	5	7 (1.9)	4	4 (2.1)	2	5 (4.2)		
3. Sharing informally at school	5	16 (4.3)	2	2 (1.0)	4	18 (15.1)		
4. Desire for common lunch or prep.	6	8 (2.2)			1	1 (0.8)		
5. Building mutual support system	6	21 (5.7)	3	3 (1.6)	2	5 (4.2)		
SUBTOTAL		68 (18.4)		9 (4.7)		32 (26.8)		0(0.0)

Table 7 (continued)

Teachers' Assessment Information: Categories and Subcategories	School A (N=7)				School B (N=4)			
	Positive		Negative		Positive		Negative	
	No. of Teachers Indicating	No. of Separate Mentions (%)[a]	No. of Teachers Indicating	No. of Separate Mentions (%)[a]	No. of Teachers Indicating	No. of Separate Mentions (%)[a]	No. of Teachers Indicating	No. of Separate Mentions (%)[a]
E. Financial Aspect								
1. Amount of money spent			3	4 (2.1)				
2. Source of money spent			3	6 (3.1)				
3. Returns on money spent	1	1 (0.3)	3	6 (3.1)				
SUBTOTAL		1 (0.3)		16 (8.3)		0 (0)		0 (0.0)
F. Information Seeking								
1. About the overall project	3	5 (1.3)	3	4 (2.1)	3	2 (1.7)		
2. About the coding system	1	1 (0.3)						
3. About the teacher profile charts	1	1 (0.3)						
4. About the project-related references	1	2 (0.5)			2	2 (1.7)		
SUBTOTAL		9 (2.4)		4 (2.1)		4 (3.4)		0 (0.0)
G. Miscellaneous								
1. Principal's support	2	2 (0.5)					1	1 (25.0)
2. Students' reactions to new behaviors	6	24 (6.5)			4	6 (5.0)		
3. Parents' comments to teachers					2	3 (2.5)		
4. Hiring of substitute for classes	2	2 (0.5)						
5. Traveling to workshop site			1	1 (0.5)				
6. Desire for supplementary teaching materials	2	13 (3.5)						
7. Volunteer teachers in program	1	1 (0.3)						
SUBTOTAL		42 (11.3)		1 (0.5)		9 (7.5)		1 (25.0)
H. Overall Impressions/Reactions	6	29 (7.8)	3	14 (7.3)	3	11 (9.2)		
SUBTOTAL		29 (7.8)		14 (7.3)		11 (9.2)		0 (0.0)
TOTAL		371 (99.9)[b]		191 (99.9)[b]		119 (99.8)[b]		4 (100)
(% of total Pos. & Neg. statements)		(66.0)		(34.0)		(96.7)		(3.3)

[a] Reported a percentages within this column only.

[b] Does not equal 100 due to rounding.

with 371 (66%) coded as positive and 191 (34%) coded as negative comments. In contrast, School B faculty provided a total of 123 evaluative comments with 119 (97%) coded as positive and a mere 4 (3%) coded as negative. The chi-square value for the total comments was significant at the .001 level [x^2 (1) = 45.31]. There was a significant relationship between school faculty and the number of positive or negative comments provided in the taped interviews. School A made significantly more negative comments.

The classroom management staff development teacher training workshops was the coded category for many of the taped evaluative comments. For School A teachers, 179 (48%) of their positive comments were coded into this category and 88 (48%) of their negative comments were coded into this category. For School B teachers, 63 (53%) of their positive comments were coded into this category and none of their total of four negative comments was coded into the category.

Within the workshops category, the subcategories present interesting data. The workshop leader as a person and her content knowledge received all positive comments; however, three teachers in School A made 18 negative comments about the workshop leader's strategies. Recall these strategies were mandated by the model itself and were not part of the leader's responsibility to change. The content of the workshops received many more positive comments than negative ones. The workshops' handouts and resources received mixed reactions. Six of the School A teachers made 25 positive comments about their immediate usefulness/applicability but six teachers from the same school made 19 negative comments. Regarding future usefulness/applicability, five School A teachers made 29 positive comments and only a single teacher made a single negative comment.

Within the workshop, the teacher behavior profile charts elicited enough comments to warrant further subdivisions. Ten negative comments were coded from three teachers for the subcategory of the teacher behavior profile chart being distributed at the first workshop. Four School A teachers made 22 (6%) positive comments regarding the interpretation of the profile charts, five School A teachers made 17(9%) negative comments, and two School B teachers made 6 (5%) positive comments about the interpretation of the teacher behavior profile charts. The usefulness of the profile charts was the subject of 24 (7%) of School A teachers' positive comments from six teachers and only 5 (3%) of their negative comments. In terms of teachers' attitudes toward their profile charts, three School A teachers made 10 (3%) positive comments but seven School A teachers made 16 (8%) negative comments.

Timing of the demonstration project was the second category of coded comments. A total of 21 (11%) of School A teachers' comments were coded as negative regarding the weekly scheduling of the teacher training workshops. The project start date in relation to the school year (it started late as reported in the narrative report) generated many negative comments and few positive comments. A total of six different School A teachers made 17 (9%) negative comments while two of the four School B teachers made three (7%) negative comments. Only two teachers (School A) made a total of three (1%) positive comments.

The demonstration project's coders and coding process was the third category of teachers' evaluative comments. School A teachers supplied all the assessment/evaluation comments in this category; School B teachers made none. For the whole category just as many positive as negative comments in percentage terms were produced (11%). The teachers had all positive comments about the observer/coder selection process. Presence of the coders in the

classrooms generated nine (2%) positive comments and only a single negative comment. The coding/observing process produced 19 (5%) positive comments and 20 (11%) negative assessment/evaluative comments. Most of these 20 negative comments reflected a lack of knowledge about the coding process.

Sharing information related to the demonstration project and its components was the fourth category of evaluative comments. The opportunity to meet as a subject area faculty received all positive comments (N=16) from School A teachers. Sharing during the workshops received seven (2%) positive and four (2%) negative comments from School A teachers. Sharing informally at school produced 16 (4%) positive and only 2 (1%) negative comments from School A teachers. Contrastingly, all four School B teachers made 18 (15%) positive comments related to sharing informally at school. The desire to have a common lunch or preparation period was voiced eight (2%) times by six of the seven School A teachers. The building of a mutual support system generated 21 (6%) positive comments from six School A teachers and just three (2%) negative comments while half the School B teachers provided five (4%) negative comments. Taken as a whole, the sharing information category produced 21 (27%) of the School B positive comments.

The financial aspect of the demonstration project produced very different results from the two schools' teachers. School B teachers did not make any positive or negative comments about this topic. A few School A teachers made numerous negative comments about the financial aspect including the amount of money spent (2%), the source of the money spent (3%), and the returns on the money spent (3%). In each case, all the negative comments were made by three of the seven School A teachers.

Information seeking was the fifth category of taped evaluative comments about the project. Overall this category produced very few comments from both school faculties.

The miscellaneous category contained a "mixed bag" of subcategories. Most of the comments were positive and from the teachers in School A. Interestingly, six of the seven School A teachers commented positively (N=24, 6%) on students' reactions to the teachers' new behaviors. All four School B teaches made positive comments (N=6, 5%) on students' reactions to the teachers' new behaviors.

Overall impressions and/or reactions was the last category of interview-produced assessment or evaluative comments. Six of the School A faculty made 29 (8%) positive comments and three made 14 (7%) negative comments. Three of the four School B faculty made 11 (9%) positive comments and no negative statements.

Citation Form*

The *Standards for Evaluations of Educational Programs, Projects, and Materials* guided the development of this (check one):

request for evaluation plan/design/proposal
evaluation plan/design/proposal
evaluation contract
✓ evaluation report
other

To interpret the information provided on this form, the reader needs to refer to the full text of the standards as they appear in Joint Committee on Standards for Educational Evaluation, *Standards for Evaluations of Educational Programs, Projects, and Materials*. New York: McGraw-Hill, 1980.

The *Standards* were consulted and used as indicated in the table below (check as appropriate):

Descriptor		The Standard was deemed applicable and to the extent feasible was taken into account	The Standard was deemed applicable but could not be taken into account	The Standard was not deemed applicable	Exception was taken to the Standard
A1	Audience Identification	XXXX			
A2	Evaluator Credibility	XXXX			
A3	Information Scope and Selection	XXXX			
A4	Valuational Interpretation	XXXX			
A5	Report Clarity	XXXX			
A6	Report Dissemination	XXXX			
A7	Report Timeliness	XXXX			
A8	Evaluation Impact	XXXX			
B1	Practical Procedures	XXXX			
B2	Political Viability		XXXX		
B3	Cost Effectiveness	XXXX			
C1	Formal Obligation			XXXX	
C2	Conflict of Interest	XXXX			
C3	Full and Frank Disclosure	XXXX			
C4	Public's Right to Know	XXXX			
C5	Rights of Human Subjects	XXXX			
C6	Human Interactions	XXXX			
C7	Balanced Reporting	XXXX			
C8	Fiscal Responsibility			XXXX	
D1	Object Identification	XXXX			
D2	Context Analysis	XXXX			
D3	Described Purposes and Procedures	XXXX			
D4	Definsible Information Sources	XXXX			
D5	Valid Measurement	XXXX			
D6	Reliable Measurement	XXXX			
D7	Systematic Data Control	XXXX			
D8	Analysis of Quantitative Information	XXXX			
D9	Analysis of Qualitative Information	XXXX			
D10	Justified Conclusions	XXXX			
D11	Objective Reporting	XXXX			

Name: Merrill L. Meehan (typed)
Merrill L. Meehan (signature)
Date: November 27, 1981

Position or Title: Educational R & D Specialist

Agency: Appalachia Educational Laboratory

Address: Post Office Box 1348, Charleston, West Virginia 25325

Relation to Document: Evaluator and author of document
(e.g., author of document, evaluation team leader, external auditor, internal auditor)

CHAPTER V

Product Evaluation Results

The previous chapter presented the process evaluation results. This chapter will present the demonstration project's product evaluation results. Data displays and narrative copy will be used to present the product evaluation results.

Teachers' Responsibility for Student Achievement

Table 8 displays the pretest ANOVA and the posttest ANCOVA tables from the analyses of the Responsibility for Student Achievement Questionnaire (RSAQ). The pretest RSAQ results revealed a significant F-ratio ($F(1, 8) = 8.15$, $p < .05$) across the two schools' faculties. This necessitated the use of the Analysis of Covariance (ANCOVA) statistical technique with the pretest RSAQ used as the covariate. With the pretest RSAQ score as the covariate, the posttest RASQ scores still produced a significant F-ratio ($F(1, 7) = 5.60$, $p < .05$).

Table 9 presents the pretest, posttest, and adjusted posttest data from the teachers' RSAQ administration. Data in Table 9 show that the mean RSAQ score for both School A and School B increased. This difference in adjusted posttest RSAQ mean scores, based on pretest scores, was significant at the .05 level.

Levels of Use Ratings

Results of the Levels of Use about the innovation ratings from the focused interviews conducted at the conclusion of the project are presented in Table 10. Here it is shown that overall there were: two teachers at the Non-Use level, one teacher at the Orientatation level, three teachers at the Mechanical

Table 8

ANOVA and ANCOVA Tables for the Teachers' Responsibility for Student Achievement Instrument Across Schools

Source	Sum of Squares	df	Mean Squares	F-Ratio	Sig. Level
		Pretest ANOVA			
Treatment	558.2	1	558.2	8.15	.05[a]
Error	548.2	8	68.5		
Total	1,106.0	9			
		Posttest ANCOVA			
Total	358.0	8			
Error	199.0	7	28.4		
Treatment	159.0	1	159.0	5.60	.05[b]

[a] $F_{.05}(1,8) = 5.32$

[b] $F_{.05}(1,7) = 5.59$

Table 9

Pretest, Posttest, and Adjusted Posttest Data from the Teachers' Responsibility for Student Achievement Instrument Across Schools

Statistic	Pretest		Posttest		Adjusted Posttest	
	School A	School B	School A	School B	School A	School B
N	6	4	6	4		
$\bar{X}$	52.5	67.7	52.2	74.3	57.1	69.4
SD	8.7	8.0	5.9	9.1		
Range	42.0-63.7	58.7-68.6	43.7-60.3	62.7-84.0		
F-Ratio	8.15		NA		5.60	
Sig. Level	.05		NA		.05	

Table 10

Levels of Use of the Innovation Ratings (N=11)

Desig-nation	Name of Level	Both Schools (N=11)		School A (N=7)		School B (N=4)	
		No.	%[a]	No.	%[a]	No.	%
0	Non-Use	2	18.2	2	28.6	0	0.0
I	Orientation	1	9.1	1	14.3	0	0.0
II	Preparation	0	0.0	0	0.0	0	0.0
III	Mechanical Use	3	27.3	2	28.6	1	25.0
IV-A	Routine	5	45.5	2	28.6	3	75.0
IV-B	Refinement	0	0.0	0	0.0	0	0.0
V	Integration	0	0.0	0	0.0	0	0.0
VI	Renewal	0	0.0	0	0.0	0	0.0

[a]Does not total 100 due to rounding.

NOTE: The dotted line separates innovation users from non-users: above the dotted lines are non-user categories, below the dotted line are users.

Use level, and five teachers at the Routine level. Levels of Use ratings across the two schools produced differentiated results. There were no non-users from School B: the three non-users were all from School A. Also, School B had three teachers at the Routine level (IV) while School A had two. When the non-user categories and the user categories were collapsed then compared across schools School A had more non-users than did School B.

Changes in Teachers' Classroom Behaviors

Demonstration project teachers' classroom behaviors were observed using the Secondary Observation Instrument (SOI). Classrooms were observed three class periods before the teacher training workshops and three class periods after the teacher training workshops. These teacher training workshops were the interventions attempting to help teachers change some of their specific classroom behaviors in ways suggested by research results. Technically, these observations should be labeled "pre-intervention observation" and "post-intervention observation." However, for the reader's convenience, they will be labeled with the shortened terms of "pre-observation" and "post-observation." A total of 19,855 teacher-focused FMI interactions were coded from the project teachers' pre- and post-observations. These classroom observation verbal interactions averaged 903 per each teacher's pre- and post-observation sets. This averages out to 301 verbal interactions, exactly one more than expected by the SOI system. The number of coded interactions per three day observation sets (pre- and post-observations) ranged from a low of 699 to a high of 1,132 specific interactions. Additionally, 330 SOI Snapshots were completed which detailed classroom activities by percent of time involvement.

A total of over 140 specific variables are produced by the SOI's FMI component. More than 15 Snapshot variables are coded. After data analyses, the FMI verbal interactions are aggregated into 30-35 variables for the teacher behavior profile chart. Also, the Snapshot yields 14 variables for its own teacher profile chart. These two SOI-produced teacher profile charts are the basis for the content of the teacher-training workshops.

The demonstration project utilized 45 FMI and Snapshot variables as targets for analysis, discussion, and change. Stallings (1980) grouped the 45 variables into three major classification types: (a) interactive instruction variables (N=28), (b) non-interactive instruction variables (N=8), and (c) off-task variables (N=9). As a result of working with the 45 variables in the Putnam County teacher training workshops in the demonstration project, the teacher trainer sought to organize the variables into a complimentary grouping scheme. Through several meetings, the teacher trainer and the evaluator developed another grouping scheme consisting of three categories. There was 100 percent agreement between the two persons regarding this grouping. The three groups were: (a) instruction variables (N=20), (b) classroom management variables (N=17), and (c) feedback and discipline variables (N=8). The division of the 45 SOI variables into the two major grouping schemes appears in Table 11. These two major grouping schemes and their subdivisions helped to organize the data analyses regarding the impact of the project on changing teachers' classroom behaviors.

The unit of measure for studying the changes in teacher's classroom behaviors requires an explanation. Recall that the FMI and Snapshot pre- and post-observations yielded teacher behavior profile charts displaying results of sets of classroom observations. These two profile charts--one for the 31 FMI variables and one for the 14 Snapshot variables--display the individual's

Table 11

Stallings Staff Development Program Teaching Variables (N=45) Listed by Two Major Grouping Schemes

Variables Grouped by Three Classification Types	Variables Grouped by Three Categories
Interactive Instruction Variables (N=28)	**Instruction Variables (N=20)**
F5 Adult to Individual Student F6 Adult to Groups F7 Adult to Class F8 Student Direct Question/Reading F17 Adult Direct Question/Reading F25 Student Response/Reading F43 Student Reading Aloud F45 Adult Instructing Group F48 Adult Instructing Groups/Reading F49 Adult Instructing Everyone/Reading F61 Adult Acknowledgement/Reading F71 Adult Praise/Support F94 All Interactions/Reading F95 All Interactions/Task F99 All Interactions/Positive F108 Student Comments Assignments F120 All Interactions/Class Assignment F136 Adult/Different Student Starts Interaction F137 Different Student/Adult Starts Interaction F138 All Instruction F139 All Supportive Corrections F141 Making Assignments S4 Total Reading Aloud S5 Total Making Assignments S6 Total Instruction S7 Total Discussion S8 Total Practice Drill S11 Total non-Math or Reading Instruction	F8 Student Direct Question/Reading F17 Adult Direct Question/Reading F25 Student Response/Reading F43 Student Reading Aloud F45 Adult Instructing Reading F48 Adult Instructing Groups/Reading F49 Adult Instructing Everyone/Reading F50 Machine Instructing F94 All Interactions/Reading F95 All Interactions/Task F108 Student Comments Assignment F138 All Instruction S3 Total Silent Reading S4 Total Reading Aloud S6 Total Instruction S7 Total Discussion S8 Total Practice Drill S9 Total Written Assignments S10 Total Test Taking S11 Total non-Math or Reading Instruction
Non-Interactive Instruction Variables (N=8)	**Classroom Management Variables (N=17)**
F50 Machine Instruction F91 All Adult Movement F122 Adult Manage Class/No Student S2 Teacher Class Manage/No Students S3 Total Silent Reading S9 Total Written Assignments S10 Total Test Taking S15 Total Classroom Management	F5 Adult to Individual Student F6 Adult to Groups F7 Adult to Class F56 All Social Comments F91 All Adult Movement F120 All Interactions/Class Assignment F122 Adult Manage Class/No Student F135 Adult with Outside Intruder F136 Adult/Different Student Starts Interaction F137 Different Student/Adult Starts Interaction F141 Making Assignments F142 All Intrusions S2 Teacher Class Manage/No Students S5 Total Making Assignments S12 Total Social Intervention S13 Total Student Uninvolved S15 Total Classroom Management
Off-Task Variables (N=9)	**Feedback and Discipline Variables (N=8)**
F56 All Social Comments F96 All Interactions/Behavior F102 All Interactions/Negative F135 Adult with Outside Intruder F140 All Correctives F142 All Intrusions S12 Total Social Interaction S13 Total Student Uninvolved S14 Total Discipline	F61 Adult Acknowledgement/Reading F71 Adult Praise/Support F96 All Interactions/Behavior F99 All Interactions/Positive F102 All Interactions/Negative F139 All Supportive Corrections F140 All Correctives S14 Total Discipline

Note: F = FMI variables
S = Snapshot variables

position relative to the norms for teachers' behavior from the baseline research project. Based on classroom teaching behaviors known to impact on student achievement outcomes at three levels of gains, three types of recommendations were made directly on the profile charts. These recommendations were for "More," "Less," or "OK" regarding changing the teaching behaviors during the time span before the post-observations. There was a column for these recommendations on each profile chart. For the purposes of this analysis, the "OK" recommendations on the pre-intervention profiles were counted as "correct implementations" of teaching behaviors. Similarly, the post-observation FMI and Snapshot profiles contained the same recommendations of "More," "Less," or "OK." Here the "correct implementations" on the profile charts were denoted by asterisks. Thus, there was a possibility of 45 "correct implementations" of teaching behaviors at both pre- and post-observation times.

Table 12 presents the pre- and post-observations of the correct implementations of all 45 teaching behaviors across both high schools. Here it is shown that the mean number of correct implementations of pre-observations teaching behaviors for School A teachers was 22.00, while the mean number of correct implementations of teaching behaviors for School B teachers was 21.25. There was no significant difference between the mean number of correct implementations of teaching behaviors across the two schools' teachers. Table 12 also shows that the mean number of correct implementations of post-observation teaching behaviors for School A was 30.71, while the mean number of correct implementations of teaching behaviors for School B was 31.00. There was no significant difference between the mean number of correct implementations of teaching behaviors across the two schools' teachers at post-observation.

Table 12

Statistics from the Pre- and Post-Observations of Correct Implementations of all Teaching Behaviors Across Schools

Timing	School A (N=7)		School B (N=4)		t-Value	Sig. Level
	Mean	SD	Mean	SD		
Pre-Observation	22.00	4.86	21.25	6.65	0.22	NS
Post-Observation	30.71	3.86	31.00	5.60	0.10	NS

Statistics from the pre- and post-observations of recommended behaviors by teachers within the two project schools are displayed in Table 13. Taking both schools' teachers together, the mean number of correct implementations of recommended teaching behaviors for all variables (N=45) was 21.73 while the post-observation correct implementations mean was 30.82, an increase of nine correct implementations. The increase between pre-observation correct implementations and the post-observation correct implementations was significant at the .01 level. When the 45 teaching behavior variables were divided into the three Stallings classification types and the pre- and post-observations compared within the two schools' faculties, it can be seen that significant differences were observed at the .05 level for the group of 28 interaction instructional variables and at the .01 level for the nine off-task behaviors. There was no significant difference in the pre-post-observations of correct implementations of recommended teaching behaviors in the eight non-interaction instructional behaviors. When the 45 teacher variables were compared by the three project-determined categories, it can be seen that the 17 classroom management variables produced a significant (.001 level) difference between the pre- and post-observations of correct implementations of recommended teaching behaviors. The mean number of correct implementations increased from 7.82 at pre-observation time to 12.91 at post-observation time.

Table 13 also displays the pre-post-observations of correct implementations of recommended teaching behaviors for all 45 variables by each school's faculty. Here it is shown that the mean number of correct implementations for School A teachers increased from 22.00 to 30.71 which was significant at the .05 level. Table 13 also shows that the mean number of correct implementations for School B teachers increased from 21.25 to 31.00. However, due to the small N even this large increase was not significant ($t_{.05}(3) = 3.18$).

Table 13

Statistics from Pre- and Post-Observations of Correct Implementations of Recommended Teaching Behaviors Within Schools

Group	Pre-Obs. Mean	Pre-Obs. SD	Post-Obs. Mean	Post-Obs. SD	t-Value	Sig. Level
Both High Schools (N=11)						
All Teaching Variables (45)	21.73	5.26	30.82	4.29	3.99	.01
Variables Types (Stallings Grouping)						
Interaction Instruction Variables (28)	11.82	4.26	16.36	3.47	2.62	.05
Non-Interaction Instructional Variables (8)	4.09	1.14	4.82	1.17	1.99	NS
Off-Task Variables (9)	6.09	1.64	7.73	0.90	3.63	.01
Variable Categories (Project Grouping)						
Instruction (20)	9.91	3.27	12.64	2.34	2.11	NS
Classroom Management (17)	7.82	1.94	12.91	1.45	6.15	.001
Feedback and Discipline (8)	4.27	1.62	5.27	1.85	1.82	NS
School A (N=7)						
All Teaching Variables (45)	22.00	4.86	30.71	3.86	3.15	.05
School B (N=4)						
All Teaching Variables (45)	21.25	6.65	31.00	5.60	1.97	NS

Teaching Behaviors Change Index

The Stallings Classroom Management Staff Development Project provides a unique opportunity to study teachers' classroom behavior changes. Because pre- and post-observations of classroom behaviors are involved; because research-based recommendations of changes in specific classroom teaching behaviors are made; and because the project teachers received ideas, support, and resources to help in the behavior change process, the Stallings staff development program provides a unique opportunity to describe and assess the actual amount of teaching behavior changes.

The Teaching Behaviors Change Index is an original measure conceived and reported for the first time in this report. The Teaching Behaviors Change Index (TBCI) is an interval level figure expressing the amount of change in specific teaching behaviors before and after teacher training workshops. Literally, TBCI is the number of correct implementations of specific teaching behaviors after the teacher training workshops minus the number of correct implementations of specific teaching behaviors before the teacher training workshops divided by the number of variables (teaching behaviors) observed.

The formula for the TBCI is:

$$I = \frac{N_A - N_B}{V}$$

where:

I = Teaching Behaviors Change Index

N_A = Number of correct implementations of teaching behaviors after teacher training workshops

N_B = Number of correct implementations of teaching behaviors before teacher training workshops

V = Number of teaching behaviors (variables) studied

Examples of the TBCI are:

$$I = \frac{N_A - N_B}{V} = \frac{45 - 0}{45} = +1.00$$

$$I = \frac{N_A - N_B}{V} = \frac{38 - 17}{45} = +0.47$$

$$I = \frac{N_A - N_B}{V} = \frac{26 - 16}{45} = +0.22$$

$$I = \frac{N_A - N_B}{V} = \frac{10 - 10}{45} = 0.0$$

$$I = \frac{N_A - N_B}{V} = \frac{22 - 45}{45} = -0.51$$

$$I = \frac{N_A - N_B}{V} = \frac{0 - 45}{45} = -1.00$$

Possible TBCI values range from -1.00 to +1.00. This continuum of TBCI values should be viewed as a range of values from low (least desirable) to high (most desirable). In this manner, then, the TBCI values are <u>not</u> similar to correlation values where a perfect negative correlation may be desirable. It is, however, too soon to assign descriptors to any of the various obtained TBCI values.

Table 14 displays the Teaching Behaviors Change Index values for the eleven Putnam County demonstration project teachers. The TBCI values ranged from a high of +0.49 to a low of -0.07. The mean TBCI value was +0.21 with a standard deviation of 0.17.

One particular TBCI value in Table 14 merits further discussion. The demonstration project teachers were instructed specifically not to change or alter their teaching schedules during pre- and post-intervention observations. As a consequence of adhering to this request, one teacher in the project was observed at post-intervention time in a series of prearranged

Table 14

Teaching Behaviors Change Index Values
for Demonstration Project Teachers

Teacher Designation	N_A	N_B	Teaching Behaviors Change Index Value*
Teacher A	35	19	+0.36
Teacher B	27	30	-0.07
Teacher C	26	16	+0.22
Teacher D	38	19	+0.42
Teacher E	28	26	+0.04
Teacher F	33	28	+0.11
Teacher G	30	19	+0.24
Teacher H	38	16	+0.49
Teacher I	25	20	+0.11
Teacher J	32	18	+0.31
Teacher K	31	27	+0.09

*Possible values range from -1.00 to +1.00: See text for the formula and its explanation.

instructional activities which did not involve interactive instruction--although they did involve instruction. Thus, by following the project's instructions regarding lesson planning, his/her classroom behaviors were observed during three days of planned primarily noninteractive instruction. Since the noninteractive instructional activities concluded on the third observation day, there was no chance to include more typical instructional activities at post-observation time. He/she knew about and realized the probable outcomes in terms of post-observation results regarding the low number of correct implementations. As expected, this person is the only teacher who obtained a negative TBCI value. This fact had a negative effect upon the teacher and it was expressed openly during the taped interview. This teacher was positive about the overall project but was influenced negatively at the very end by post-observation scheduling procedures. The teacher wanted to show changes in behaviors, felt he/she could demonstrate changes, but was thwarted by the scheduling of the post-observations in relation to his or her lesson plans.

Principals', Teacher Trainers', and Superintendent's Reactions

Both principals of the demonstration schools were interviewed at the completion of the project in order to obtain their reactions. The principals offered several responses when asked to name any positive features of the demonstration project. Both principals said that the opportunity for teachers to discover exactly what their teaching behaviors were by objective coders was a positive feature. The selection of observers from the substitute teacher list was another positive feature they mentioned. One principal opined that his involved teachers "gained in self-security and self-confidence." In response to the question of the effects of their involvement on

the teacher, each principal replied differently. One principal stated that the teachers were more "close knit" as a group now: a good outcome. The other high school principal felt that the project teachers were more aware now of their strong and weak points in teaching and, thus, had a good chance to become better teachers. Asked about possible side effects of the demonstration project, one principal felt that the aspect of "outside" persons from other educational agencies observing and interacting with his or her staff was a positive side effect. Both principals said they had no problems in implementing the staff development project. Both principals said they felt that the project had the strong support of their supervisors (the central office staff). Asked if they would like more detailed information about the project, both principals replied in the affirmative. When asked if they were in favor of the continuation of the classroom management staff development project next year, both principals replied yes, but with a condition. One principal's condition was that the other parts of the comprehensive instructional improvement program (Higginbotham, 1981) should begin and the other principal felt that the same leader (teacher trainer) should manage the project.

Using basically the same interview schedule, the teacher trainer was interviewed by the evaluator. Asked to state any positive features of the demonstration project, the teacher trainer named three: (1) "building cohesiveness, comaraderie among teachers within schools," (2) "broadening of teachers' perceptions of themselves personally and professionally," and (3) "expanding teachers' knowledge about classroom and instructional management and their relationship to student achievement." Asked to state what the effect of the project had been on the teachers, the teacher trainer responded that the project "definitely has opened some eyes and some minds." The

teacher trainer stated that the project had impacted both other teachers and students. Other teachers heard about the demonstration project and became interested in it. Some of the project teachers told the teacher trainer that their students noticed a difference in their teaching and that they "enjoyed the 'new' teachers." Regarding the possible continuation of the project, the teacher trainer was very enthusiastic, saying:

> I'd like to expand the sessions to work with new (and more) teachers, yet also have the opportunity to have some follow-up, informal sessions with last year's group of teachers as well as collect follow-up [observational] data on them.

The teacher trainer was very candid with opinions of areas where the project which could be improved. The teacher trainer made seven specific recommendations for improvement:

1. Use volunteer teachers in the future.
2. Schedule the teacher training workshops every other week instead of weekly.
3. Make provisions for the teacher trainer to have more contact with the project teachers in their classrooms.
4. Distribute the teacher profile charts at the second workshop.
5. Expand the data collection process from three to five days.
6. Eventually expand the project to include teachers from other disciplines and grade levels.
7. Secure the optical scanning and the profile chart computer programs.

The Superintendent of Putnam County Schools was interviewed at the conclusion of the project using nearly the same interview questions. Asked about the possible positive aspects of the demonstration, the Superintendent offered two responses. First, the Superintendent said that the project "...brought to Putnam County teachers a validated, systematic approach of

classroom observations by which teachers can analyze their teaching behaviors and interactions with students." Second, the project seemed to have fostered a generally favorable attitude among many teachers and had spurred comments toward school and classroom management. Asked to comment on the effects on the project teachers, the Superintendent replied that he felt that there was a "greater realization and/or renewal of the vitally important role that teachers have in the educational process." Side effects of the project include inquiries from other teachers about the project's processes and expansion plans which could involve more teachers. Regarding support from superiors, the Superindentent pointed to the fact that the project is an important part of a comprehensive instructional improvement program (Higginbotham, 1981) which has the official endorsement of the Putnam County Board of Education. Two concerns were expressed when asked about any problems in the implementation of the project. First, the Superintendent mentioned the difficulty of finding time in his work schedule to devote to the project (although there was no lack of interest). Second, the Superintendent had heard some expressions of concern about the way administrators will view the process--as professional growth or as teacher evaluation. The Superintendent felt strongly that the project should continue and that it should be adjusted/refined with information "that will enable the process to be tailored to the needs of Putnam County Schools, its administrators, teachers, and especially, its students."

CHAPTER VI

Conclusions and Recommendations

Process evaluation results were presented in chapter four. Product evaluation results were presented in chapter five. This chapter will present the conclusions and recommendations from the evaluation of the Stallings Classroom Management Staff Development Demonstration Project in Putnam County, West Virgina.

Conclusions

This evaluation study was designed and conducted to assess the implementation of a specific staff development demonstration project. Based on the data collected and reported in the previous chapters, certain conclusions can be drawn. These conclusions shall be presented in this section.

Overall, results of this evaluation show that the Stallings Classroom Management Staff Development Demonstration Project implemented in Putnam County Schools in 1980-1981 was a success. Findings from five out of six data collection instruments/techniques lead to the conclusion of the project being a success. The demonstration project teachers' reactions/feelings advanced from a point just above neutral to a point one full point higher (on a six-point continuum) at the conclusion of the project. During taped interviews, project teachers made two and one half times as many positive evaluative comments about the project as negative evaluative comments. There was a significant increase in the project teachers' expressions of positive responsibility for student achievement, taking into account pretest scores. Levels of Use ratings confirmed that there were eight innovation users and just three non-users among the eleven teachers. Finally, data analysis showed a significant increase in the number of correct implementations of

teacher behaviors change (as defined by the program) from pre-intervention observation time to post-intervention observation time.

Each data collection procedure provides specific findings to the overall conclusion. First, the demonstration project teachers' reactions/feelings regarding the project events moved upward as the events unfolded. Starting one half point above neutral (on a "+3" to "-3" continuum), the teachers' reactions/feelings mean score dipped to a low point just after they received the teacher behavior profile charts, then moved upward to the value of +1.6. This movement on this instrument is an indication of project success.

Second, the demonstration project teachers expressed high concerns about the project at its conclusion. The intensity level of these concerns was high, although not unexpected for a brand new innovation regarding their teaching practices. Combining the concern scores from the two demonstration site faculties yielded the most intense concern as Informational. The teachers desired more information about the innovation. There was a significant difference across school faculties regarding the Personal stage with one school faculty being particularly concerned about their professional status or role change in the organization in relation to the innovation.

Third, in evaluating the project after it concluded, participating teachers overwhelmingly judged it positively according to their evaluation/assessment comments. Analysis of 685 individual evaluation/assessment comments revealed two and one half times as many positive comments in comparison to negative comments. Of all the evaluative comments, just about one half pertained to the teacher training workshops and there were more favorable comments than negative ones on this topic. The remaining evaluative comments were divided among seven other categories.

Fourth, the demonstration project teachers' self-expressed positive responsibility for student achievement scores increased significantly from prestest to posttest administrations of the instrument. In the absence of a control or comparison group design it is not possible to conclude that the project activities caused the increase in perceived responsibility for student achievement; however, the pretest-posttest increase is a fact, even taking into account the significant differences in pretest scores across the two schools' faculties.

Fifth, there was a high number of innovation users for this demonstration project. The Levels of Use Ratings showed that there were eight (73%) users and just three (27%) non-users of the innovation. Given that: (1) the teachers did not volunteer themselves to be participants in the project, (2) the complexity of the innovation, (3) the timing of the project in the school year, and (4) the content of the project (changing teachers' classroom behaviors) the number of users was high.

Sixth, the staff development project had a significant impact on changing teachers' behaviors. The mean number of correct implementations (as defined by the program) of recommended teaching behaviors increased from 22 at pre-observation time to 31 at post-observation time. This pre-post difference was significant. Further, the 45 teaching behavior variables can be broken down into logical groupings and the location of the significant differences can be pinpointed further.

Finally, the Teaching Behaviors Change Index is an original interval level measure of the participating teachers' changes in classroom behaviors. Based on systematic, objective observations at pre- and post-intervention periods and on specific, research-based recommendations for changes in teaching behaviors, the Teaching Behaviors Change Index is a measure which

communicates the level of performance for teachers involved in this particular staff development program. It can be used as a communication and comparison measure across several implementations of this staff development program in one locale, but further, it can serve to describe and assess implementations of this staff development program across several different project installation sites. Most important, over time and with the collection of valid and reliable background and environmental variables relating to teachers' jobs, the Teaching Behaviors Change Index can be used as the dependent variable in studies to discover what independent variables impact on it. Thus, the knowledge base of changing teachers' classroom behaviors may be increased greatly.

Recommendations

In view of the findings and conclusions of this evaluation study and based on nearly a year's work with the demonstration project, certain recommendations are offered to the administrator in charge and to other readers.

Several recommendations deal with continuation of the Stallings Classroom Management Staff Development Program. If Putnam County Schools' administrators are looking for an objective, research-based staff development program that can demonstrate positive changes in classroom teaching behaviors by Putnam County teachers, then they have found it in the Stallings program. Assuming no other constraints, there was nothing discovered in the evaluation of the demonstration project to discourage its continued use and, resources permitting, its expansion. Some refinements in the model to make it more relevant to Putnam County teachers are suggested on the following pages, but these are considered slight adjustments and not major modifications.

Several specific recommendations deal with the processes of the Stallings program. It is recommended that the classroom observers/coders continue to be selected from the Putnam County Substitute Teacher List by a committee of Putnam County teachers and administrators. It is recommended strongly that the classroom observations be expanded to five class periods per observation set (Fall, Winter, Spring). Also, it is recommended strongly that these five classroom observations be spread over a two week time period to allow for individual instructional scheduling possibilities. Next, it is recommended just as strongly that the teacher behavior profile charts not be distributed and discussed until the second teacher training workshop. Concomitantly, it is recommended that the total number of teacher training workshops be expanded to six and that the first one should deal with and prepare the teachers for the receipt of their teacher behavior profile charts. All other aspects of the teacher training workshops can remain the same as implemented in the demonstration project, based on this evaluation.

Informational needs is another area for recommendations. There is an intense concern for more information about the classroom management staff development project by Putnam County teachers and administrators. It is recommended that a planned and coordinated information program be designed and implemented. It is recommended, for example, that if volunteer teachers will be involved in the next phase, a teacher recruitment brochure or flyer be prepared which will communicate basic information about the staff development project. It is recommended that this brochure or flyer be followed with personal awareness sessions for new project teacher recruits including the Superintendent, the teacher trainer, an observer/coder, and a participating teacher from the first year's installation. But the informational needs shouldn't end at this stage. It is recommended that many more mechanisms

for "getting the word out" be put in place. These could include: (1) a distinctive, attractive, and colorful logo identifying the program and/or project; (2) inserts to the school system's newspaper; (3) special bulletins to teachers; and (4) memos or letters to teacher and principals reinforcing the intent to continue with the thrust begun in the 1980-1981 school year. Other informational possibilities should be studied.

Independence and self-sufficiency are the targets for other recommendations. If Putnam County Schools continues the classroom management staff development program, then several important steps leading to their self-sufficiency with the system are recommended. A Putnam County "apprentice" in the Stallings system should be identified and trained by the Stallings-trained apprentice as soon as possible. Without a locally-supported Stallings "apprentice," the domino effect may never begin in Putnam County Schools and the school system will be dependent always on an outside agency for the teacher trainer. The observation system's optical scanning program should be purchased to not only reduce data processing costs, but more importantly, to speed-up the turnaround time between observations and the production of the teacher behavior profile charts. Similarly, the computer program(s) which transform the raw data into the teacher behavior profile charts should be purchased, if possible, from the Teaching and Learning Institute. These steps identified above will ensure a large measure of independence and self-sufficiency by the Putnam County Schools and, in the long run, save considerable amounts of money for the school system.

Finally, several recommendations for research, development, and evaluation are offered. A natural recommendation would be to monitor continuously the implementation of the Stallings staff development program in Putnam County Schools. At a minimum, a design similar to the one used in this

report may be used, although the inclusion of a comparison (non-project) group of teachers would increase the internal and external validity of the evaluation results. Improvements in instrumentation should be attempted in future evaluations. The original group of eleven demonstration project teachers should be studied over time including, if possible, continued observation of their classrooms and "refresher" training workshops to assess possible long term effects of their involvement in the demonstration project. Putnam County Schools, with outside assistance as necessary and appropriate, should begin to develop its own data base for the teacher behavior profile charts' recommendations of classroom behavior changes. This could include, for example, a change to criterion-referenced measures of student achievement outcomes. Over time, various criterion-referenced data bases could be built into the system to accommodate various content areas. Continued use of the Teaching Behaviors Change Index is encouraged. Communication of this measure between and among others using the Stallings staff development program is recommended. The first goal of this network of index users could be the initial assignment of descriptors to various attained values of the index. This could assist in the development of a common metric for describing and assessing the actual amount of teaching behavior changes. Associated with the previous recommendation would be exploratory study of the Teaching Behaviors Change Index as the dependent variable in staff development/teacher effects research. Last, results of this evaluation study should be communicated to other educational personnel through this report, the executive summary, articles, research papers, and/or presentations at local, state, regional, and national meetings and conferences.

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APPENDICES

Appendix A:

Reaction Survey

Putnam County Classroom Management/Teacher Effectiveness
Demonstration Project

Reaction Survey
June 8, 1981

Directions: In prose form, please provide us with your reactions/feelings as this demonstration project unfolded. You may want to use the following outline to organize your narrative.

1. Before the teacher awareness meeting with Ken Higginbotham, Joe Basile, Debra Sullivan:

2. After the teacher awareness meeting:

3. Before the first set of observations:

4. After the first set of observations:

5. After the first teacher training session:

6. After the third teacher training session:

7. After the final teacher training session:

8. Before the second set of observations:

9. After the second set of observations:

10. Before receiving your final profile:

11. After receiving your final profile:

12. Today: (6/8/81):

Appendix B:

Citation Form: The Standards for Educational Programs, Products, and Materials

Citation Form*

The *Standards for Evaluations of Educational Programs, Projects, and Materials* guided the development of this (check one):

request for evaluation plan/design/proposal
evaluation plan/design/proposal
evaluation contract
✓ evaluation report
other

To interpret the information provided on this form, the reader needs to refer to the full text of the standards as they appear in Joint Committee on Standards for Educational Evaluation, *Standards for Evaluations of Educational Programs, Projects, and Materials*. New York: McGraw-Hill, 1980.

The *Standards* were consulted and used as indicated in the table below (check as appropriate):

Descriptor		The Standard was deemed applicable and to the extent feasible was taken into account	The Standard was deemed applicable but could not be taken into account	The Standard was not deemed applicable	Exception was taken to the Standard
A1	Audience Identification	XXXX			
A2	Evaluator Credibility	XXXX			
A3	Information Scope and Selection	XXXX			
A4	Valuational Interpretation	XXXX			
A5	Report Clarity	XXXX			
A6	Report Dissemination	XXXX			
A7	Report Timeliness	XXXX			
A8	Evaluation Impact	XXXX			
B1	Practical Procedures	XXXX			
B2	Political Viability		XXXX		
B3	Cost Effectiveness	XXXX			
C1	Formal Obligation			XXXX	
C2	Conflict of Interest	XXXX			
C3	Full and Frank Disclosure	XXXX			
C4	Public's Right to Know	XXXX			
C5	Rights of Human Subjects	XXXX			
C6	Human Interactions	XXXX			
C7	Balanced Reporting	XXXX			
C8	Fiscal Responsibility			XXXX	
D1	Object Identification	XXXX			
D2	Context Analysis	XXXX			
D3	Described Purposes and Procedures	XXXX			
D4	Definsible Information Sources	XXXX			
D5	Valid Measurement	XXXX			
D6	Reliable Measurement	XXXX			
D7	Systematic Data Control	XXXX			
D8	Analysis of Quantitative Information	XXXX			
D9	Analysis of Qualitative Information	XXXX			
D10	Justified Conclusions	XXXX			
D11	Objective Reporting	XXXX			

Name: Merrill L. Meehan (typed)
Merrill L. Meehan (signature)
Date: November 27, 1981

Position or Title: Educational R & D Specialist

Agency: Appalachia Educational Laboratory

Address: Post Office Box 1348, Charleston, West Virginia 25325

Relation to Document: Evaluator and author of document
(e.g., author of document, evaluation team leader, external auditor, internal auditor)

"END OF DOCUMENT"