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Classroom management intervention: The effects of training and mentoring on the inductee teacher's behavior

Stallion, Brenda K., Ph.D.

The Ohio State University, 1987

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CLASSROOM MANAGEMENT INTERVENTION: THE EFFECTS OF
TRAINING AND MENTORING ON THE INDUCTEE TEACHER'S BEHAVIOR

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By

Brenda K. Stallion, B.S., M.S., M.A.

* * * * *

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To my parents,

My life is good because of them. The values I cherish today are mine because of their good example. As I strived to complete this degree, they watched me from a distance, encouraged me, and always believed in me. They shortened the distance between us with letters of encouragement which brought laughter and tears but, more importantly, they expressed their love and gave me a closer feeling of family. Because of all these contributions, they are both so much a part of all that I am today and hope to be in the future. Therefore, as an expression of my love and appreciation, I would like to dedicate this dissertation to my parents, as I finally "walk the last mile."

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TABLE OF CONTENTS

DEDICATION	ii
ACKNOWLEDGEMENTS	iii
VITA	vi
LIST OF TABLES	ix
LIST OF FIGURES	xvi
CHAPTER	PAGE
I. INTRODUCTION	1
Purposes of the Study	7
Background and Setting	8
Hypotheses	9
Definition of Terms	10
Limitations and Assumptions	14
Significance of the Study	16
Summary	17
II. REVIEW OF RELATED LITERATURE AND CONCEPTUAL FRAMEWORK	
Problems of Beginning Teachers	18
Existing Structures in Professional	
Development of Teacher Education	27
Interventions	51
Measurement of Teaching	88
Summary and Conceptual Framework	90
III. METHODOLOGY	
Research Design	94
Subject Selection Procedures	97
Experimental Treatment:	
Classroom Management Intervention	104
Outcome Measures:	
Classroom Management Behaviors	108
Observer Training Procedures	109
Instrumentation	111
Data Collection Procedures	115
Data Analysis Procedures	117
Summary	120

CHAPTER	PAGE
IV. RESULTS	
Classroom Rating Scales	122
Student Engagement Ratings	158
Conference Report Forms	177
Summary	179
V. SUMMARY, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS	
Introduction	181
Summary of the Study	183
Conclusions	187
Implications for Practice	191
Recommendations for Further Research	195
LIST OF REFERENCES	199
APPENDICES	210
A. Franklin County/OSU Induction Project Planning Materials	211
B. Correspondence	240
C. Instrumentation and Mentor/Inductee Intervention Planning Forms	252
D. Tables	258

LIST OF TABLES

TABLE		PAGE
1.	Evertson's Classroom Management Training Model	87
2.	Number of Mentor and Inductee Teachers by Treatment Group	99
3.	Demographic Information on Mentors and Inductees by Treatment Groups (original)	101
4.	Classroom Management Intervention Model	107
5.	Classroom Management Intervention Variables	109
6.	Timeline for Classroom Management Training and Data Collection	116
7.	Frequencies, Means and Standard Deviations of Item Scores in Domain 1 (Instructional Management) by Experimental Groups	124
8.	ANOVA Summary Table for Classroom Ratings on Domain 1 (Instructional Management)	126
9.	Estimated Variance Components from G Study and D Study on Classroom Ratings, Domain 1 (Instructional Management) Random Effects Model	127
10.	Frequencies, Means and Standard Deviations of Item Scores in Domain 2 (Rules and Procedures) by Experimental Groups	131
11.	ANOVA Summary Table for Classroom Ratings on Domain 2 (Rules and Procedures)	133
12.	Estimated Variance Components from G Study and D Study on Classroom Ratings, Domain 2 (Rules and Procedures) Random Effects Model	135
13.	Frequencies, Means and Standard Deviations of Item Scores in Domain 3 (Meeting Student Concerns) by Experimental Groups	138

TABLE		PAGE
14.	ANOVA Summary Table for Classroom Ratings on Domain 3 (Meeting Student Concerns)	140
15.	Estimated Variance Components from G Study and D Study on Classroom Ratings, Domain 3 (Meeting Student Concerns) Random Effects Model	141
16.	Frequencies, Means and Standard Deviations of Item Scores in Domain 4 (Managing Pupil Behavior) by Experimental Groups	145
17.	ANOVA Summary Table for Classroom Ratings on Domain 4 (Managing Pupil Behavior)	147
18.	Estimated Variance Components from G Study and D Study on Classroom Ratings, Domain 4 (Managing Pupil Behavior) Random Effects Model	148
19.	Frequencies, Means and Standard Deviations of Item Scores in Domain 5 (Student Misbehavior) by Experimental Groups	152
20.	ANOVA Summary Table for Classroom Ratings on Domain 5 (Student Misbehavior)	154
21.	Estimated Variance Components from G Study and D Study on Classroom Ratings, Domain 5 (Student Misbehavior), Random Effects Model	156
22.	Means and Standard Deviations of Student Engagement Scores on Class Task Behavior	160
23.	Summary of ANOVA Among Groups on Student Engagement Estimates of Definitely-On Task Class Behavior	163
24.	Estimated Variance Components from G Study and D Study on Student Engagement Percentage Scores, Definitely-on Task Class Behavior, Random Effects Model	164
25.	Summary of ANOVA Among Groups on Student Engagement Estimates of Probably On-Task Class Behavior	168

TABLE		PAGE
26.	Estimated Variance Components from G Study and D Study on Student Engagement Percentage Scores, Probably On-Task Class Behavior, Random Effects Model	169
27.	Summary of ANOVA Among Groups on Student Engagement Estimates of Off-Task Class Behavior	173
28.	Estimated Variance Components from G Study and D Study on Student Engagement Percentage Scores, Off-Task Class Behavior, Random Effects Model	174
29.	Distribution of Classroom Management Problems by Groups	178
E-1	Summary of ANOVA on Classroom Ratings of Group I Teachers on Domain 1 (Instructional Management); Estimated Mean Square Equations; Estimated Random Effects Variance Components (EVCs)	259
E-2	Summary of ANOVA on Classroom Ratings of Group II Teachers on Domain 1 (Instructional Management); Estimated Mean Square Equations; Estimated Random Effects Variance Components (EVCs)	260
E-3	Summary of ANOVA on Classroom Ratings of Group III Teachers on Domain 1 (Instructional Management); Estimated Mean Square Equations; Estimated Random Effects Variance Components (EVCs)	261
E-4	Summary of ANOVA on Classroom Ratings of Group I Teachers on Domain 2 (Rules and Procedures); Estimated Mean Square Equations; Estimated Random Effects Variance Components (EVCs)	262
E-5	Summary of ANOVA On Classroom Ratings of Group II Teachers on Domain 2 (Rules and Procedures); Estimated Mean Square Equations; Estimated Random Effects Variance Components (EVCs)	263

TABLE	PAGE
E-6	Summary of ANOVA on Classroom Ratings of Group II Teachers on Domain 2 (Rules and Procedures); Estimated Mean Square Equations; Estimated Random Effects Variance Components (EVCs) 264
E-7	Summary of ANOVA on Classroom Ratings of Group I Teachers on Domain 3 (Meeting Student Concerns); Estimated Mean Square Equations; Estimated Random Effects Variance Components (EVCs) 265
E-8	Summary of ANOVA on Classroom Ratings of Group II Teachers on Domain 3 (Meeting Student Concerns); Estimated Mean Square Equations; Estimated Random Effects Variance Components (EVCs) 266
E-9	Summary of ANOVA on Classroom Ratings of Group III Teachers on Domain 3 (Meeting Student Concerns); Estimated Mean Square Equations; Estimated Random Effects Variance Components (EVCs) 267
E-10	Summary of ANOVA on Classroom Ratings of Group I Teachers on Domain 4 (Managing Pupil Behavior); Estimated Mean Square Equations; Estimated Random Effects Variance Components (EVCs) 268
E-11	Summary of ANOVA on Classroom Ratings of Group II Teachers on Domain 4 (Managing Pupil Behavior); Estimated Mean Square Equations; Estimated Random Effects Variance Components (EVCs) 269
E-12	Summary of ANOVA on Classroom Ratings of Group III Teachers on Domain 4 (Managing Pupil Behavior); Estimated Mean Square Equations; Estimated Random Effects Variance Components (EVCs) 270
E-13	Summary of ANOVA on Classroom Ratings Group I Teachers on Domain 5 (Student Misbehavior); Estimated Mean Square Equations; Estimated Random Effects Variance Components (EVCs) 271
E-14	Summary of ANOVA on Classroom Ratings of Group II Teachers on Domain 5 (Student Misbehavior); Estimated Mean Square Equations; Estimated Random Effects Variance Components (EVCs) 272

TABLE	PAGE
E-15	Summary of ANOVA on Classroom Ratings of Group III Teachers on Domain 5 (Student Misbehavior); Estimated Mean Square Equations; Estimated Random Effects Variance Components (EVCs) 273
E-16	Summary of ANOVA on Student Engagement Percentage Scores of Group I Definitely On-Task Class Behavior; Estimated Mean Square Equations; Estimated Random Effects Variance Components (EVCs) 274
E-17	Summary of ANOVA on Student Engagement Percentage Scores of Group II Definitely On-Task Class Behavior; Estimated Mean Square Equations; Estimated Random Effects Variance Components (EVCs) 275
E-18	Summary of ANOVA on Student Engagement Percentage Scores of Group III Definitely On-Task Class Behavior; Estimated Mean Square Equations; Estimated Random Effects Variance Components (EVCs) 276
E-19	Summary of ANOVA on Student Engagement Percentage Scores of Group I Probably On-Task Class Behavior; Estimated Mean Square Equations; Estimated Random Effects Variance Components (EVCs) 277
E-20	Summary of ANOVA on Student Engagement Percentage Scores of Group II Probable On-Task Class Behavior; Estimated Mean Square Equations; Estimated Random Effects Variance Components (EVCs) 278
E-21	Summary of ANOVA on Student Engagement Percentage Scores of Group III Probably On-Task Class Behavior; Estimated Mean Square Equations; Estimated Random Effects Variance Components (EVCs) 279
E-22	Summary of ANOVA on Student Engagement Percentage Scores of Group I Off-Task Class Behavior; Estimated Mean Square Equations; Estimated Random Effects Variance Components (EVCs) 280

TABLE		PAGE
E-23	Summary of ANOVA on Student Engagement Percentage Scores of Group II Off-Task Class Behavior; Estimated Mean Square Equations; Estimated Random Effects Variance Components (EVCs)	281
E-24	Summary of ANOVA On Student Engagement Percentage Scores of Group III Off-Task Class Behavior; Estimated Mean Square Equations; Estimated Random Effects Variance Components (EVCs)	282

LIST OF FIGURES

FIGURE		PAGE
1.	A Model of Collaborative Interaction for Induction Programs	15
2.	Existing Structures in Professional Teacher Development	28
3.	The Rationale for Classroom Management/Mentoring Intervention: Conceptual Framework	93
4.	Mentors' and Inductees' Access to Information about Principles of Effective Classroom Management by Treatment Groups	96

CHAPTER I

Introduction

The transition from teacher preparation, known as the preservice years, to the beginning years of teaching has been noted as complex. Considerable attention has been focused on the problems experienced by beginning teachers during the initial years of teaching (Fuller & Bown, 1975; Ryan, 1980; Veenman, 1984). At the same time, many have called for improvements in the quality of the teaching force in the nation (National Commission on Excellence, 1983; Boyer, 1983; Goodlad, 1983;Sizer, 1984). Similarly, state legislators, accrediting agencies, and teacher education graduates have questioned the standards of teacher preparation programs. Zimpher (1985) recognized the cumulative effects of these national, state, and local concerns and has suggested that attention should be focused on ways of improving teaching at the point of entry into the profession. The complexities facing beginning teachers, coupled with concerns about the schools in the nation, pointed toward three central questions that undergirded this study. These included: (a) What were the complexities facing beginning teachers? (b) What current structures existed within the organization of teacher education to reduce those complexities? and (c) What intervention programs were introduced to reduce those complexities?

The Complexities Facing Beginning Teachers

Beginning teachers have experienced their most difficult problems during the first years of teaching; yet, little assistance has been provided to them (Adams, 1982). Beginning teachers were expected from the first day to instruct students and to perform the same tasks as veteran teachers. These tasks were not a gradual increase; rather, the beginner was assigned a full complement of teaching duties. To complicate matters, beginning teachers learned in individual cellular structures, i.e., behind their classroom doors. They were confronted with a "sink or swim" situation (Lortie, 1975). Doyle (1980) added a contributing dimension to this scenario by describing the complexities of classrooms as crowded with "people, activities and interruptions." Thus, the teacher was particularly vulnerable and was left with little time to think about and anticipate classroom events (Evertson, Hawley and Zlotnik, 1984). "In short, new teachers arrived in classrooms ill-equipped to handle the 'regular duties' of teaching and the concomitant 'reality shock' of the first year of teaching" (Howey, Matthes and Zimpher, 1985, p. 61).

Existing Structures Which Reduce Complexities

If teaching was so complex for the beginning teacher, educators might have reasonably expected existing structures within the organization of teacher education to deal with these complexities. The first structured attempt has occurred during the initial teacher preparation period in which students, typically undergraduates, were

preparing to become teachers. These programs consisted of courses in specialized subject areas, courses in methods of teaching, and opportunities to practice teaching in school settings. Ultimately, successful students were granted a license to teach. Even though teaching skills were taught during this period, some beginning teachers have said they never acquired them, or that these skills were inadequately treated in their preservice programs (DeVoss, 1978, 1979, 1980; Katz, Raths, Mohanty, Kurachi and Irving, 1981). Paradoxically, teaching skills were often a part of required content in undergraduate teacher preparation courses (Zimpher, 1985). Koehler (1984) has succinctly captured possible reasons for the paradox and argued:

All preservice training can be characterized as anticipatory socialization, which inevitably involves giving students answers to questions not yet asked, and not likely to be asked until students are in the thick of actual service. This aspect of socialization can be called the feed-forward problem. It includes resistance from the student at the time of exposure to given learnings and, later, protestations that the same learnings had not been provided, should have been provided, or should have been provided in stronger doses (p. 21).

A second structured attempt has occurred after graduation from initial teacher preparation programs. Inservice education and staff development programs were organized to enhance what had already been learned, what should have been learned, and/or what needed to be learned about current educational practices. The responsibility for the continuing education of teachers has generally been vested in the local district initiatives. However, problems have been identified in school districts as they have attempted to achieve these goals. Little

communication or coordination has occurred about the nature of needs of the teachers or school resources available relative to staff development (Cyphert, 1981; Lanier, 1984). Needs were perceived as deficiencies, and thus it was difficult to share needs (Howey, et al., 1985). In addition, operational efforts within school districts often fell to an administrator low in the administrative hierarchy. These administrators often worked in isolation from the key individuals who made critical curricular decisions for the district (Lanier, 1984a).

As described, organizational structures have existed in teacher education programs from which teachers entered and exited on a continuum throughout their teaching careers. However, problems have been identified in the structures which have indicated the need for improvement in teacher education programs. In sum, preservice attempts were not being carried over to inservice (Koehler, 1984), and higher education institutions were generally unwilling to assume responsibility for assisting beginning teachers during this induction period of teaching (Yarger, 1982). Inservice programs focusing on the transition of teachers into the initial years of teaching (Howey, et al., 1985) or helping beginning teachers develop understandings of their work in complex environments were rare (Lanier, 1986). The teaching environment was not conducive to helping new teachers because they were isolated from their colleagues (Lortie, 1975); yet, the fact remained that beginning teachers faced complex problems (Fuller and Bown, 1980; Ryan, 1975; and Veenman, 1984). Therefore, an

understanding of the different types of existing structures for continuing professional development was important. These existing structures helped to build realistic expectations for novice teachers, developed knowledge and skills to meet these expectations and gave novice teachers a better vision of their perceptions of teaching. The point was that structures needed to be developed which held promise for supporting the teachers during the initial years of teaching on the assumption that these structures would continue to build and sustain good teachers (Carter and Richardson-Koehler, 1986).

The Introduction of Intervention Programs that Reduced Complexities

In a recent study, Veenman (1984) found the following to be the most commonly cited perceived problems of beginning teachers: (a) classroom discipline; (b) motivating students; (c) dealing with individual differences; (d) assessing student work; (e) relationships with parents; (f) organization of classwork; (g) insufficient materials and supplies; and (h) dealing with problems of individual students. Classroom management and organization were areas of concern to the teachers and were among the most frequently requested topics by teachers during inservice education programs; they also headed the list of concerns of school administrators and have frequently attracted the attention of teacher educators and researchers (Evertson, Emmer, Sanford and Clements, 1983). Beginning teachers also perceived

classroom management as a problem. The logical conclusion was that knowledge concerning these problems provided important information for the design and improvement of preservice and inservice programs.

As pointed out earlier, preservice could not be a means to an end; that was, preservice educators could not be expected to resolve all of the problems of beginning teachers. Without being confronted with the complete responsibility of teaching, teacher candidates found it difficult to grasp the critical aspects of classroom instruction. Beginning teachers often complained about "classroom discipline" as if they had never received training in classroom management. On the other hand, preservice instructors indicated specific points at which classroom management was a focus in their courses (Carter and Richardson-Koehler, 1986). Carter and Richardson-Koehler (1986) referred to the concept of event-structured knowledge, meaning beginning teachers learned better because they now saw that they needed the knowledge. Beginning teachers were faced with multifaceted tasks, including managing instruction, establishing rules and procedures, and eliciting the cooperation of students in classroom activities. These tasks occurred in designated environments, across time and were expected to be sustained over several months. Research studies conducted by Evertson and her colleagues have made it possible to identify a number of characteristics of well-managed classrooms and have resulted in some widely disseminated principles of practice (Emmer, Evertson and Anderson, 1980; Evertson and Emmer, 1982; Evertson et al., 1983). Their research was useful to first-year teachers who

were planning for organization of their classrooms, for arranging physical environments that were conducive to instruction, and for monitoring student engagement and use of time in classrooms. Their work served as an important knowledge base for an intervention model to help teachers become acquainted with recommended practices in classroom management and effective teaching (Carter and Richardson-Koehler, 1986).

Purposes of the Study

This study had two major purposes. The primary purpose was to assess the effects of a program of training teachers in classroom management. Training programs and observation procedures adopted for this study have been used successfully in earlier studies and have shown positive effects on teachers' classroom management behaviors and student achievement (Anderson, Evertson and Brophy, 1979; Brophy and Evertson, 1976; Evertson, Anderson, Anderson and Brophy, 1980; Evertson, Weade, Green and Crawford, 1985). What differs in this study from previous studies was that the training program was embedded in a mentor and beginning teacher induction program. Both mentor teachers and beginning teachers were assigned to treatment conditions. The second purpose was to assess the relative effects of the mentoring relationships on the beginning teachers' classroom management behaviors as affected by the training intervention.

Background and Setting

This dissertation was designed as a part of a larger research project funded by the U.S. Department of Education's Office of Educational Research and Improvement. While this dissertation was unique in its own right, and could have been carried out in isolation from the larger project, access to participants in the larger study provided opportunities for collaboration. The larger study, Using Research Knowledge to Improve Teacher Education: Developing an Inquiry Base for Induction (Zimpher, 1986), focused on a support system to help beginning teachers adapt in their new teaching environments. In order to accomplish this task, beginning teachers were paired with experienced teachers (also called mentor teachers) who assisted in providing a supportive environment. The participants included classroom teachers, administrative and supervisory personnel from five local school districts in central Ohio, and higher education faculty and researchers.

One initial concern, within the larger study, focused on the development of a model for meeting the needs of beginning teachers and mentors serving in support capacities as well as organizing selected activities that would involve these two groups of participants. Decisions were made to conduct an assessment of the needs of beginning teachers and experienced teachers. The instruments, Franklin County/OSU Needs Assessment for Beginning Teachers (see Appendix A) and Franklin County/OSU Needs Assessment for Mentor Teachers (see Appendix

A) (Stallion, 1985) were administered to 75 beginning teachers and 75 experienced teachers in the five school districts. Results indicated that, of ten problem domains presented in the needs assessments, classroom management ranked second among the problems perceived by beginning teachers and fourth among the problems perceived by mentor teachers. Classroom management was selected as a focus for development because beginning teachers and mentor teachers perceived it as a mutual problem, and the planning committee was interested in helping teachers become effective classroom managers.

This researcher became involved in discussions with the planning committee members about possibilities for the design of an intervention that could focus on both classroom management and ways to establish continuing peer support among pairs of beginning (inductee) and experienced (mentor) teachers. After these discussions, the superintendent of one of the five school districts offered support for conducting an experimental study on the effects of a classroom management intervention to enhance beginning teacher practices and mentoring processes (see Appendix B). One building level principal worked with this researcher in coordinating the continuing series of activities that evolved throughout the study (see Appendix B).

Hypotheses

The following hypothesis guided this study: There will be differences among inductee teachers on observed classroom management behaviors.

Sub-hypotheses:

Hypothesis 1: Group I inductee teachers will be rated more favorably than Group II teachers on: (a) instructional management; (b) rules and procedures; (c) meeting student concerns; (d) managing pupil behavior; (e) student misbehavior; (f) student engagement ratings; and (g) conference report forms.

Hypothesis 2: Group I inductee teachers will be rated more favorably than Group III on (a) instructional management; (b) rules and procedures; (c) meeting students concerns; (d) managing pupil behavior; (e) student misbehavior; (f) student engagement ratings; and (g) conference report forms

Hypothesis 3: Group II inductee teachers will be rated more favorably than Group III on (a) instructional management; (b) rules and procedures; (c) meeting student concerns; (d) managing pupil behavior; (e) student misbehavior; (f) student engagement ratings; and (g) conference report forms.

Definition of Terms

Definitions of selected terms and concepts adopted for this study include:

Classroom Management Intervention Training: Training that occurred at some mid-point of the school year to assist mentor and inductee teachers in developing effective classroom management skills. The intervention training model used in this study was adapted from a prevention model designed for earlier studies in classroom

management conducted by Evertson and her colleagues (Anderson, et al., 1979; Brophy and Evertson, 1976; Evertson et al., 1980; Evertson et al., 1985). The training model focused on the following: (a) planning rules and procedures ahead of time, (b) presenting these rules to students along with expectations for appropriate behavior, (c) maintaining a systematic approach through monitoring student academic work and behavior, and (d) providing feedback to students. Evertson et al., (1983) reported that the utilization of the model resulted in improved student behavior and smoother instructional activities when compared with a control group without such training.

Conferencing: The time set aside by the mentor and beginning teacher for discussion of problems, issues, and/or concerns of the beginning teacher.

Group I: Inductee teachers who received classroom management intervention training and who participated in a support program with mentor teachers who had also received classroom management intervention training.

Group II: Inductee teachers who received classroom management intervention training and who participated in a support program with mentor teachers who had not received classroom management intervention training.

Group III: Inductee teachers who did not receive classroom management intervention training and who participated in a support

program with mentor teachers who, likewise, did not received classroom management intervention training.

Induction: The first three years of teaching after the student has graduated from a teacher education program at an accredited college or university. The institutionalization of induction into the public schools has been and continues to be emerging as an innovation in many states. Induction has been defined as that period of transition in moving from novice teacher to experienced teacher. Also included in this study were those teachers transferring from other buildings, districts, grade levels and/or subject matters, and those returning after a leave of absence.

Inductee Teacher: (a) A graduate of a teacher preparation program who was assigned as a certified teacher to a classroom for the first time; (b) a certified teacher who has been on an extended leave from the profession and was returning to the classroom for the first time in several years; (c) a certified teacher who was engaged in some kind of retraining and who was assigned to a grade level or content area markedly different from any previous teaching assignments; (d) a certified teacher who was either new to the district or new to the building to which he/she was assigned (Zimpher, 1985).

Mentoring: A process, which focused as a support system, that occurred between the mentor teacher and the inductee teacher. The mentoring process provided the inductee teachers assistance from mentor teachers in a variety of ways, i.e., observing classrooms,

conferencing sessions, discussing problems related to instruction, or orienting. The point emphasized was that mentoring was intended to help new teachers with problems related to their new environments.

Mentor Teacher: An experienced teacher who was (a) personable in dealing with other teachers; (b) a master of the craft of teaching; and (c) understood the need for the mentorship role. The mentor teacher was in no way an evaluator or had any part in hiring or firing decisions. The mentor teacher either volunteered to participate in this program or was selected. These mentor teachers who were selected were done so by an administrator, or administrator and teacher representative.

Mentoring Report Forms: Forms submitted by the mentor and inductee teachers as part of data collection procedures. These forms asked the teacher to discuss (as a pair) the problems, issues, and/or concerns they faced, and to record and analyze their teaching problems. Collection of the forms began after the intervention training was administered and continued until the end of the study to verify the mentoring process.

The Induction Project: This project was a federally funded grant from the U.S. Department of Education's Office of Educational Research and Improvement. The purpose of the project was to develop, implement and research a pilot induction year program. This project was part of an ongoing collaborative program development effort aimed at the improvement of teacher education between The Ohio State University and five Franklin County school

districts in central Ohio. It was through this collaborative arrangement that the design and implementation of a pilot induction year program was jointly planned for approximately 100 beginning teachers in the Franklin County districts (see Figure 1). The beginning teachers for this induction project were defined as "new" according to the above definition. This "new" type of teacher involved made this project somewhat unique. According to Ryan (1986) these types of "new" teachers usually experienced some type of trauma, to some degree, during a transition period.

Limitations and Assumptions

One major limitation in this study was that only one particular school district was used from among the five school districts participating in the larger study. A larger sample size, incorporating two or more school districts, would have increased the credibility of the findings. Additionally, teachers were observed on a limited number of occasions. This was due to limited resources of time and personnel. These limitations in resources also precluded scheduling a single classroom observer (rater) for all observations of each teacher. The problem of multiple observers for a single teacher has been a common one in classroom observation studies (Shavelson, Webb, & Burstein, 1986).

Other limitations that defined the parameters of this investigation included the following: (a) subjects from all grade

Figure 1 A model of collaborative interaction for induction programs.

levels (K-12); (b) beginning (inductee) teachers as defined within the larger study; (c) the mentoring process was institutionalized within the schools and included all subject matter content areas as defined above. This researcher made several assumptions in the study: (a) all mentor and inductee teachers had never received intervention training in classroom management; (b) all mentor and inductee teachers were volunteers; and (c) all mentor and inductee teachers would complete mentoring report forms as mentor/inductee pairs.

Significance of the Study

Findings from this study could be useful in several ways. First, there has been a growing body of literature on the effects of training teachers in the principles of effective classroom management (Evertson et al., 1985). This dissertation was unique in that an intervention model was developed for training at mid-year rather than at the beginning of the school year as in previous studies (cf. Evertson et al., 1983), thus expanding what was known about the timing of classroom management processes and employment of staff development processes. Second, little has been known of the impact of mentors on inductees. Lots of mentoring programs have been set up, with little extant measure of impact. Therefore, when research results do indicate that a mentoring program could improve the classroom management performance of beginning teachers, further studies will be needed pertaining to the induction of beginning teachers. And finally,

through the use of techniques and procedures within Generalizability Theory, inferences about the likelihood of similar effects in other settings could be drawn with increasing links of confidence.

Summary

A brief introduction to the study, a statement of the problem, a description of the background and setting, an identification of the hypotheses that guided the study, a list of definitions of relevant terms, a discussion of the limitations, and the significance of the study have been addressed in this chapter. The major problem in this study was to determine whether a program in classroom management intervention training was effective in helping beginning (inductee) teachers improve their classroom management practices. A second primary problem was to determine if a mentoring relationship was effective in helping beginning teachers cope with classroom management problems as presented in the intervention. The remaining chapters present literature review, methodology, results, summary, conclusions, implications for practice and recommendations for further research.

Chapter II

Review of Literature and Conceptual Framework

A review of literature and selected research studies that provided direction for this study and subsequently assisted in interpreting the findings will be presented in this chapter. The following discussion operated as a downward spiral from discussions about problems of beginning teachers to a focus on the intervention training implemented in this study. The review of literature has been organized in four sections, each of which had direct bearing on this study. These included studies of the problems of beginning teachers, a review of existing structures in professional teacher development designed to reduce the complexities facing beginning teachers, intervention approaches such as induction programs, literature on mentoring processes and classroom management training and measurement theory.

Problems of Beginning Teachers

Recently, considerable attention has been focused on the problems and issues of the beginning teacher. Various authors have used a variety of approaches and techniques for examining and identifying the problems and concerns of beginning teachers, and for formulating the issues that these problems and concerns suggest (Briscoe, 1972; Chapman, 1983; Eddy, 1969; Evertson, et al., 1984; Fuller, 1969; Fuller and Bown, 1975; Hall and Jones, 1976; Hawley and Rosenholtz, 1984; Houston and Felder, 1982; Howey, et al., 1985; Jersild, 1966; Joyce and Clift, 1984; Lortie, 1975; Pataniczek, 1978; Rosenholtz, 1985;

Ryan, 1980, 1986; Veenman, 1984; Watts, 1982; Zimpher, DeVoss, and Nott, 1980). Some of these authors have focused on personal problems of teachers, some on professional problems, and some on both. Most often, the work on teachers' problems has resulted in formulation of stages or sequences through which the beginning teacher develops and matures. Some variations in the stage sequences that have emerged were evident, especially in terms of the timeline selected, e.g., beginning at a point of professional employment or prior to completion of professional training. Nonetheless, broad general agreement about the nature of the problems and concerns of beginning teachers appeared to emerge. The particular stages identified by several authors were reviewed in what follows.

Stages of Learning about Teaching

Fuller and Bown (1975) identified three stages of learning about teaching in terms of the concerns of beginning teachers. In ascending order, these stages included survival concerns, teaching situation concerns, and pupil concerns. Survival concerns related to beginning teachers' images of self in the classroom. Beginning teachers were concerned about their adequacy for maintaining classroom control, for being evaluated, and for being praised. Teaching situation concerns focused on the frustrations that appeared to evolve from the particular instructional situation. They included such things as too many students, too many non-instructional duties, too many times pressures, too many inflexible situations, and too few instructional materials.

Finally, pupil concerns related to the social and emotional needs of the students and to the inappropriateness of some curricula. In general, the model suggested that as beginning teachers gained confidence they shifted from concerns for survival to more professional concerns for classroom and instructional management, and ultimately to concerns for pupil learning.

Furthermore, Fuller and Bown postulated that concerns were often predictable and that teachers moved through a sequence starting with concerns about self and progressing to concerns about tasks and finally to concerns about impact. Accordingly, needs had to be met at each level; a basic level of confidence had to be established both with self and with subject matter before pupil needs could be met (cf. Hall and Jones, 1976). In a similar vein, Ryan (1980) found that the major problems beginning teachers dealt with were personal adjustments rather than actual teaching processes. Building on the work of Fuller (1969) and Fuller and Bown (1975), Ryan (1986) expanded the stage theory to include teacher preparation. He described the first stage, which occurred during teacher preparation, as a "fantasy" stage. That was, most preservice teachers fantasized that teaching might be pleasant or anxious. Whichever, teacher candidates often did not think about their future careers in a careful, analytical manner (Ryan, 1986). As a result, it was little wonder that preservice teachers questioned the relevance of teacher education courses (Zimpher, DeVoss and Nott, 1980). They could not see the benefit of writing lesson plans,

incorporating a variety of teaching strategies, and other such dubious activities, because they were daydreaming about whether they would indeed be liked by their students.

Ryan (1986) identified "survival" as a second stage that occurred during the first year of teaching. Teachers faced the realities of surviving in their own classrooms, with their own students, and they struggled with establishing professional careers. As part of surviving, they often attempted to "save face" with their students, the teacher next door, the school principal, and students' parents as they carried out the daily responsibilities of teaching. Ryan (1986) also suggested that the "survival" stage could have long term effects on the beginning teacher's view of teaching as a future career. Chapman (1983) captured this notion in his examination of teachers' anxieties in relation to retention within the profession, when he argued that:

Early frustration may act to discourage teachers from pursuing their career, both as it leads to direct job dissatisfaction and as it shapes beginning teachers' professional and social patterns that affect retention in a more subtle way. One might expect that a positive first year teaching experience would be positively related to retention and, further, would be substantially related to a person's ratings of adequacy of his or her teacher preparation program (p. 45).

Ryan (1986) also identified six common problems that faced first-year teachers: (a) "the shock of the familiar;" (b) students; (c) parents; (d) administrators; (e) fellow teachers; and (f) instruction. The "shock of the familiar" referred to the new teachers' feelings of being a stranger in a familiar setting. Unlike other fields in which new professionals find themselves entering new and unfamiliar arenas, beginning teachers have spent most of their lives

in and out of classrooms. Unexpected demands in this familiar setting, e.g., paperwork, tardy slips, attendance records, and extra-curricular activities were strange and taxed the individual's stamina.

Further, reasons for entering the teaching profession often included the satisfaction of helping students learn. Thus, it was distressing to realize that students could be the main reason for the stress. A third problem for beginning teachers was dealing with parents. Preservice teachers frequently viewed parents as naturally supportive and, thought little about how they would relate to parents. Parents, however, could be a real problem, especially if they were concerned about the new teacher's competence or jealous of the teacher-student relationship.

Administrators presented a fourth problem. Beginning teachers might initially feel good about principals, partly because of the principal's roles in selecting them for their first jobs. As time passed, however, they realized that principals had many roles to play in operating a school, different perspectives on how a class should be run and that the principal was the authority to which teachers must answer. Another problem was dealing with fellow teachers in the faculty lounge, in teachers' meetings, local teachers' organizations, and within the long standing "turfs" of experience. Finally, instruction was a problem in that beginning teachers were expected to know precisely what and how to teach to a specific audience. In sum, Ryan (1986) contended that

these problems did not necessarily operate independently of each other; rather they interacted with each other, causing the new teacher to feel completely out of control.

Briscoe (1972) studied the professional concerns of first-year secondary teachers. These teachers were asked to examine 51 possible concerns and to note the degree to which each had been a concern at the beginning of the year as compared to later in the year. Four of the five highest-ranked concerns reflected problems of classroom management, discipline and "knowing" students. Pataniczek (1978) studied the concerns of first-year secondary teachers, focusing on graduates of a personalized, experienced-based teacher education program. As a group, initial concerns were high in the areas of gaining student respect, handling discipline problems, and maintaining order. The group's main concerns at the beginning of the year dealt with having an impact on their students. Other concerns ranked high included knowing students as individuals, meeting individual needs, organizing classrooms and improving student learning abilities.

In yet another study of perceived problems of the beginning teachers in their first years of teaching, Veenman (1984) found the following problems to be cited most frequently: (a) classroom discipline, (b) motivating students, (c) dealing with individual differences, (d) assessing student work, (e) relationships with parents, (f) organization of classwork, (g) insufficient materials and supplies, and (h) dealing with problems of individual students

(p. 16). The generalization that might be gleaned from these studies was that beginning teachers were first concerned about themselves, then teaching, and finally, meeting the needs of their students.

Consistency in findings across these various studies was evident. Veenman (1984) suggested that these generalized findings provided information for the (re)design and improvement of preservice and inservice teacher education programs, and thus, provided ways of addressing beginning teachers' problems.

Issues and Emerging Questions

After carefully examining the results of studies on the problems of beginning teachers, it seemed necessary to take a closer look at some of the issues that might be creating these problems. Throughout, the problems identified as being central to the daily classroom activities of beginning teachers included classroom management, discipline, relationships with students, and behavior control. They may not have understood the issues that they were about to face. Even so, the expectations from students, peers, administrators, and parents were already awaiting them. Beginning teachers engaged in the usual pre-opening activities of school, e.g., readying their classrooms, being introduced to the faculty and administrators, and then finally, disappearing into classrooms to meet their students. For many beginning teachers, meeting new classes and engaging in classroom activities was the time they had all been anxiously awaiting. At the

same time, the beginning teachers were deciding whether to master teaching as a chosen profession (Ryan, 1986). Thus, the process of teaching began with a new teacher who was confronted with anxiety, self-doubt and confusion (Watts, 1982).

A small amount of anxiety could be useful if it kept teachers on target and alert. Over-anxiousness, however, could be distracting for both the teacher and students. Negative manifestations included staring at lecture notes, hiding behind podiums and desks, pacing around the classroom, assigning seatwork, and avoiding whole group or small group discussion. Positive manifestations, in contrast, included enthusiastic discussions, games, role-playing strategies, as well as individual and group involvement. Nonetheless, when the beginning teacher was stifled with anxiety, attention was focused on self rather than on students. This resulted in uncomfortable classroom climate for both the beginning teacher and the student.

Hawley and Rosenholtz (1984) reported the induction period to be "so chaotic and absent of support that teachers often focused on instructional strategies that stressed control over student behavior rather than stress the facilitation of learning" (Evertson, et al., 1984, p. 8). Joyce and Clift (1984) contended that the socialization process of learning to teach encouraged teachers to invoke a "practicality ethic" with survival concerns dominating classroom practice. Houston and Felder (1982) described the implications of anxiety as follows:

When a new teacher becomes frustrated, anxiety ridden, and exhausted, the students and the entire profession suffer. New teachers must be inducted into the profession humanely, in ways that engender pride, openness, and increased professional competence and stature (p. 460).

Anxiety might be created, in part, by the cellular structure of American schools in which teachers spend most of their time alone with their students and were confronted with a "sink or swim" approach to teaching. This isolation did not allow beginning teachers to improve skills since most of their learning occurred by "trial and error" (Lortie, 1975; Rosenholtz, 1985). This image of professional isolation carried profound implications for teacher learning, particularly for beginners (Lortie, 1975).

Rosenholtz (1985) recognized that the working conditions of most schools revealed a place where teachers seldom saw or heard each other as well as an environment which did not provide opportunities for teachers to participate in shared learning experiences. As a result, teachers worked harder to cover their mistakes in order to protect their self-esteem and soothe their egos.

Ryan (1986) suggested, however, that in teaching "there were no dirty little secrets"; most often they are public knowledge. Under this umbrella of circumstances, the beginning teachers sheltered their working lives, learned to develop idiosyncratic goals, and evaluated their own successes or failures (Rosenholtz, 1985). When new teachers began to recognize this trauma, they became convinced that they were alone in a boat, rowing with only one oar in the water, and that surely, there was no one to rescue them.

In sum, the first year of teaching has been likened to an expedition--a mission requiring courage, stamina, and a will to survive (Eddy, 1969; Fuller and Bown, 1975; Jersild, 1966). However, the problems of new teachers were not insolvable. In essence, something needed to be done during this critical period, and to ignore it was to deny reality. The long term implications of avoiding the problems of beginning teachers for children, the teacher, the school and society were considerable (Howey, et al., 1985). Ryan (1986) agreed that approaches should be taken to greatly reduce the entry trauma for the new teacher. The profession has learned much about these problems. Consequently, steps were being taken in schools (Ryan, 1986) and in higher education institutions across the nation to add organizational structures to make the newcomer's transition into teaching a much more satisfying and productive experience (Howey, et al., 1985).

Existing Structures in Professional Development of Teacher Education

Four organizational structures have existed and continue to exist within professional teacher development. As illustrated in Figure 2, these structures have included the stages of professional development of teachers which have been identified as follows: recruitment and selection, preservice education, induction, and inservice education (Howey et al., 1985).

In the recruitment and selection phase, several initial processes have occurred before the student could be admitted into the teacher education

Figure 2
Existing structures in professional teacher development.

program. These processes have varied according to the particular institution chosen or recruited into, but planning a program of study has usually been the logical first step for the new students. This planning has marked the onset of the second phase, preservice education, which was an important step for both advisor and student because careful decisions had to be made regarding the content area of specialization, general education courses, and professional education courses (including student teaching). Typically, the aim that guided the planning included meeting the needs of the student, the guidelines of the teacher education department, and the state's requirements for teacher certification.

The third phase, the induction phase, has been the period where actual teaching begins after the student has received the teaching license. This phase, which has recently emerged as a state of the art in organizational structure in teacher education has been considered by many to be the most critical period of all the phases. During this induction phase, the newcomer has made the transition from "student teacher" to "teacher" (Shalaway, 1985) and for the first time has been faced with the "reality shock" (Veenman, 1984) of managing his or her own classroom. The final phase, inservice education, has been a continuation of learnings that have been learned, should have been learned, or perhaps, never were learned in preservice education. Inservice, which has been usually provided by the local school

district(s), in conjunction with the state department of education and/or universities, has typically been designed to meet the needs of experienced teachers as well as the novice teacher.

These existing organizational structures have been designed to influence the professional development of teachers. Each phase has built into the next, as illustrated in Figure 2. The repertoire of skills teachers acquired as they passed through each phase has had profound effect on the beginning teacher's decision to stay in the teaching profession (Chapman, 1983). Thus, professional development structures have become life-long learning processes that have operated on a continuum from the time the student entered the teacher education preservice program until they have exited the teaching profession. However, the larger question to be answered here has not been how these existing structures have been interrelated but, rather what these structures have been doing to reduce the complexities that faced classroom teachers. In this way, conditions that existed within these structures might be identified as a focus for improvement efforts.

In sum, the efficacy of two of the four stages of professional development, (preservice education and inservice education) have been questioned at the present time in terms of the services they have provided to teachers in some fields of study. In these fields preservice students and teachers have left the profession in droves (Shalaway, 1985). Apparently, neither the preservice nor the inservice phase of professional development have appeared ready to take ownership

of this problem. However, some selected fields of education, such as Agricultural Education have recognized the significance of early inservice education for assisting beginning teachers (Hedges, 1982). Hedges (1982) stated that a majority activity of many departments of Agricultural Education has been providing instruction for beginning teachers. In far too many fields, however, the question has remained: Who should have taken the responsibility for the improvement of these structures? All things being equal, the question remained: Who should have taken the responsibility for the improvement of these structures?

Preservice (including higher education) and inservice education (including staff development) have been framed in this study to examine the attempts each has made to provide a conducive environment for learning to teach and to teach better. In addition, the conditions of the workplace (the schools) were examined to reveal factors that impinged on the new teacher's ability to adapt to his or her environment. A case has been built for intervention within induction phases of professional development through a collaborative structure linking the university and the public schools.

Structures for Preservice Education

Teacher preparation (preservice) programs have been blamed for "unleashing poorly educated instructors upon the nation's children" (Evertson et al. 1984, p. 4) and have been indicted in several national

education reform efforts (Howey et al., 1985). In response to this outcry, state policymakers have continued to legislate policies to ensure the quality of education in our schools, and some classroom teachers have supported them (Howey et al., 1985). Apparently, consensus existed that something was wrong, that something needed to be done, and that preservice education should take the responsibility for reducing the complexities faced by beginning teachers.

In order to fully understand the complexities involved in preparing teachers to teach, the conditions that existed in the preservice education environment needed to be critically analyzed. These conditions included environmental factors influencing both faculty and students, pressure from higher education institutions and public schools, and the questionable status and prestige of teaching.

Teacher preparation programs embedded within higher education institutions, along with state departments of public instruction, exercised control over preservice activities (Howey et al., 1985). Collaborative arrangements were necessary to meet the needs of both the university and public schools, but conflicts were inevitable. The university environment called for traditional forms of faculty productivity in research and writing, while the external university environment called for the supervision of preservice students in student teaching and in field-based experiences.

Students also participated in a prevailing atmosphere of conflict. Their undergraduate programs were designed to include liberal arts

basic requirements, subject area specializations, and elective courses as well as their teacher preparation program. Only one-fourth of the programs for secondary majors and one-third for elementary majors were in education courses (Smith & Street, 1980). "Undergraduate students tended to become known for their subject matter specializations. This was due in part to the limited number of education-specific courses they were required to take, and the low level of professional identification with the field of education and the school, college, or department of education" (Clark & Marker, 1975, p. 56).

Status and prestige also influenced preservice education programs. Lanier (1984b) offered several reasons for the low level of prestige. Essentially, there were at least two other major areas of course concentration besides teacher education courses and often times these other major areas of concentration housed their own teacher education programs. In other words, there were "too many warring factions in control of small pieces of the enterprise" (p. 108). Clark (1977) concurred, suggesting that instructors labeled teacher education students as lower quality students, sensed that they received a low level of support from the university, and then rapidly decided for themselves that teacher education programs were not quality programs. Teacher education programs also suffered from a perceived weak knowledge base and were viewed as a nonprofessional occupation (Howey, et al., 1985). Teaching was, in fact, referred to by some as the "intellectual ghetto" (Sykes, 1983).

Yet another condition which was indirectly related to the status of teacher education programs was the financial situation. Peseau and Orr (1980) reported that in terms of what it cost to educate the average public school child, universities spent only about two-thirds as much to educate the average teacher. The expenditures for teacher education were indexed at the undergraduate baccalaureate level, where the faculty idea prevailed in the minds of budgetary officials that these courses were taught in a lecture-discussion format (Howey, et al., 1985). In addition, others have recognized that teacher education departments were increasing their responsibilities without increasing their resources; departments frequently did not receive sufficient adjustments in funding because they failed to (re)define goals that justified the need for additional expenditures (Orr & Peseau, 1979). Essentially, undergraduate teacher education programs had little time to adequately prepare teachers, and resources were inadequate to support the needs of preservice education. Others (Clark & Marker, 1975; Kerr, 1983) strongly advised that preservice education be removed from the undergraduate schools as long as these prevailing conditions remained.

The overall conditions of preservice education pointed to a need for extrapolating what researchers have stated about the content of preservice education courses. This "fleshing out" provided designers of teacher preparation programs a clearer focus as to why beginning teachers felt they had been inadequately prepared to teach, thus

creating a sense of ownership for restructuring teacher education programs to better meet the needs of beginning teachers.

What Research Says about Preservice. Evertson, et al., (1984) reviewed numerous studies that were conducted in the last decade on the effectiveness of teacher preparation programs at various higher education institutions. The purpose was to examine how teacher preparation programs enhanced the teacher's capability to contribute to student learning.

Comparisons across studies were found to be helpful in determining the overall effectiveness of teacher preparation programs on teacher performance; however, they provided little to assess the competency of teaching performance. Conclusions were drawn that, at best, teachers learned how to do things through their education courses and that this was reason enough to improve preservice education training (Evertson et al., 1984). The authors suggested that "even the most aggressive apologists for teacher education acknowledge that improvements could and should be made in virtually all programs" (p. 40). What these improvements should be was a decision for designers of teacher preparation programs to consider. Five areas of focus for decision making were highlighted: (a) standards for admission; (b) coursework allocation to general studies, field concentration, education courses, and student teaching; (c) education curriculum content; (d) certification criteria for prospective teachers; and (e) preservice obligation to the induction period (Evertson et al., 1984).

Improvements regarding these five areas seemed logical; therefore, designers of teacher preparation programs should have examined each of these decisions and determined how they might improve their own teacher preparation programs as well as the existing professional teacher development structures.

A second major synthesis of research studies was conducted by Koehler (1984). Selected studies of research on preservice education were categorized into six relatively discrete topics, including: (a) studies of the skills, competencies and attitudes of practicing classroom teachers that reflected on their preservice teacher education; (b) studies of the skills, competencies and attitudes of teacher education students that reflected either on their present or past education or on the future quality of the teaching work force; (c) evaluations of teacher education courses, of methods within courses or of complete programs; (d) studies of teacher educators; (e) studies of institutions; and (f) studies of studies and research, and research reviews. General findings and conclusions from the Koehler review have been outlined as follows.

Studies of the skills, attitudes, and competencies of classroom teachers revealed, in general, that practicing teachers did know more and that their preservice education programs did not provide enough training in specialized areas (e.g., school/community relations, handicapped, exceptional children, reading, and mathematics). Studies that focused on student teachers indicated deficiencies in knowledge of

subject matter. Elementary and secondary preservice students differed in their levels of cognitive development anxiety and confidence in curriculum tasks, evaluation, and math anxiety. Conclusions were drawn that preservice student teachers needed more work in several areas. Attitudes were found to shift from idealistic, progressive, or liberal during preservice to more traditional, conservative, or custodial in student teaching and in the beginning years of teaching. Thus, evidence was provided that skills learned in teacher education courses get "washed out" during field experiences (Koehler, 1984). Teacher education has been heavily criticized as a result of the attitudes and perception of teachers, especially preservice teachers. Katz, Rath, Mohanty, Kurachi and Irving (1981) eluded to this problem as the "feed-forward problem."

A third category in Koehler's review included studies examining the courses, program, and methods of evaluation of preservice education students. Serious difficulties were identified in attributing differences in teachers' behaviors, attitudes or beliefs to the teacher education program. Research on teacher educators, the fourth category, has been scant. One study of social studies teacher educators, however, suggested that instructional techniques and descriptions of successful classroom teaching were not reflected in the goals that teacher educators set for their own teaching. In studies of university supervisors, findings indicated a lack of clarity about roles and limited attention to providing clinical feedback.

Koehler's (1984) fifth category, institutional studies, focused on studies examining curriculum offerings, selection procedures and/or adjustment in selection criteria for special populations and institutional outcomes, such as how many preservice students actually teach after graduation. Criticism of teacher education programs was often based on the entering abilities of students. Koehler (1984) found limited evidence to show that students who entered with high academic abilities and who scored high on tests as they left the profession would be effective teachers. There was insufficient evidence to know if a cut-off score would be a help or hinderance to the profession. Very few studies were found investigating the effects of institutions on the faculty. Several of these were documentations concerning changes in teacher education programs as a result of a research project designed to assist institutions in implementing research on elementary education programs (cf. Egbert & Fenstermacher, 1984). The final category on research reviewed several studies on preservice education research and provided evidence that research on teacher education should seriously be considered as useful in arriving at tentative conclusions concerning the conditions of teacher education practice and directions for future research (Koehler, 1984).

Carter and Richardson-Koehler (1986) concluded that the blame for these faults might be misplaced. The socialization of teachers might involve simply increasing their unanticipated recognition of the multi-faceted complexities of teaching practice and the

situation-specific ways problems occurred in practice. Being caught "off-guard" and feeling unprepared, up to a certain level, might be part of the learning process that could not be avoided. Preservice students complained about their training because they did not know what problems were ahead. Students had to be in the "real" teaching world in order to understand "event-structures" (Carter & Richardson-Koehler, 1986) as daily occurrences. If this were true, it seemed reasonable to assume that inservice education was in a difficult position to provide assistance to beginning teachers in this continuous phase of teacher education.

In essence, Koehler (1984) concluded that research, based on different conceptualizations and partnerships developed between teaching teachers to teach and placing teachers in practice teaching, did allow the achievement of goals and objectives that were necessary for the improvement of teaching. Also, it was concluded that frameworks needed to be provided that guided the understanding of research and that could assist designers of teacher preparation programs in improving practices.

Thus, examination of the conditions that existed in most preservice education institutions, and the reviews of research conducted on preservice programs, (Evertson et al., 1984; Koehler, 1984) revealed little doubt that improvements needed to be made in preservice teacher development. Even at their best, however, preservice programs could

not fully prepare all teachers for the multifaceted changes and responsibilities that occur in the real life situations of daily teaching.

Inservice Education

Inservice education, or staff development as it was frequently called, was supposed to pick up the fragmentations left by preservice education and was to teach teachers what they needed to know to help them teach better. Howey (1985) defined staff development "as a collection of activities pursued by teachers. . . to enhance their capacity as professionals after they have obtained licensure and begun professional practice." (p. 59). Howey (1985) offered six purposes for staff development: (a) continuing pedagogical development, (b) continuing understanding and discovery of self, (c) continuing cognitive development, (d) continuing theoretical development, (e) continuing professional development, and (f) continuing career development. He disagreed with the notion that primary responsibility for planning and supporting staff development be assigned to employers; thus suggesting that teachers should take more responsibility in planning staff development programs. In a recent study of staff development activities in Oregon, Gall, Haisely, Baker, and Perez (1984) concluded the following:

Our hunch is that inservice education, however, it is originally conceived, becomes bent to the prevailing patterns of school system functioning. Inservice education appears largely designed to be unintrusive and undemanding of teachers. It reinforces prevailing curriculum and instruction, and is not intended to alter them in a

fundamental way. The focus of inservice instruction on the instructional process rather than instructional outcomes is a major indicator that it is not intended to challenge the prevailing system. Another indicator of lack of challenge is the fact that teachers feel adequately prepared in the majority of inservice activities even before they begin participation (p. 8).

Thus, Howey (1985) contended that, although major improvements have been made in some areas of pedagogical teacher development, there still remained much work to be done in the personal and professional development of teachers. Inservice activities, as they exist now, created an environment which was not situational-specific for the masses of teachers, let alone specific to the needs or concerns of beginning teachers.

Staff development has been defined very broadly. One wonders what content actually "counts" as staff development, or, more pointedly, if anything and everything conceivably "counts" as staff development. Given this problem, looking at existing normative practices of inservice education will have at least provided an alternative approach.

Formats in Inservice Education. Previous formats of inservice education stressed that teachers have been engaged in learning that promoted student learning, rather than learning about themselves and their personal and professional concerns (Howey & Zimpher, 1986). In addition, they added that inservice education was preoccupied with formats that stressed control over practices and nonexistent

supervision activities. Howey and Zimpher (1986) suggested inservice activities that could be more naturally embedded in the daily activities of teachers.

Showers (1984) introduced a format of staff development that could be carried into the classroom itself in a recent study of the effects of peer coaching and the transfer of training. This model showed how activities from development designs could be transferred into the classroom. Sparks (1983) supported the notion of staff development being directly tied into the classroom (Howey, 1985). Howey and Zimpher (1986) concurred that this should mean a more collegial form of staff development than has existed at the present time. The implementation of such a format as mentioned above should facilitate modeling, peer observation and feedback, collaboratively planned research and experimentation, shared readings, and systematic approaches to the resolution of cross-cutting problems (Howey & Zimpher, 1986). Also, this type of format should involve students in a variety of ways in systematic observations of and as informants about numerous dimensions of classroom life. Classroom activities designed to contribute to student learning might also be designed to contribute to teacher learning (Howey & Zimpher, 1986). In essence, the school and classroom could be viewed as rich laboratories for the professional growth and development of teachers in a collegial mode (Howey & Zimpher, 1986).

In a similar vein, but with a contrast in format, Mertens (1982) identified two common forms of staff development for teachers:

1. The first form was supported through school district provisions of time for teachers to engage in inservice activities. Endorsed by the State Department of Education, the primary example in New York state was the "Superintendent's Day" in which districts closed their schools and required that all teachers engage in district-organized staff development. A typical program would bring all district teachers together to hear speeches related to district objectives. Less commonly, individual teachers were relieved by substitutes from teaching duties to pursue independently arranged activities, for example, visitations to other teachers' classrooms.
2. The second form was supported through districts financially subsidizing professional development activities which carried college graduate credit. In some instances, districts provided subsidy through assuming the registration costs for teachers enrolling in courses. More typically, districts provided indirect subsidy in that teacher advancement on district salary scales was almost always related to the accumulation of college graduate credits. Teachers engaged in this form of inservice on their own time, but participation was mandatory to the extent that it affected a teacher's certification and position on district salary scales (p. 80).

A survey conducted by Yarger, Howey, and Joyce (1977) on staff development practices indicated that the after-school workshop was found to be the most common form of staff development format. Additionally, they found college courses to be a typical format of inservice education which varied across the nation in terms of the content, usually related to whatever resources were available from the particular colleges. Another format attracting much attention was inservice programs and packages, such as Hunter's (1976) model of Instructional Theory into Practice program or Stalling's (1980) Effective Use of Time program. These instructional models were empirically based and were seen to be a primary agenda for inservice education. These formats that were presently being introduced in

inservice education could serve as knowledge bases for the collaborative collegialship envisioned by Howey and Zimpher (1986).

There were several forms of inservice or staff development that contributed little to continuing growth and positive teacher socialization (Howey & Zimpher, 1986). Howey (1985) wrote that staff development was largely limited to the enrichment of pedagogical skills, which limited teacher and pupil growth by not assisting teachers in understanding their pupil's academic and social behavior. If teachers and principals could share expectations about the pupil's academic and social growth, staff development formats could be aimed at those expectations, therefore building a sense of community and schoolwide curriculum organization.

What Researchers Say About Inservice Education. Griffin (1982)

offered three explanations for why research was so meager in the inservice phase of professional teacher development.

there are too many interconnecting parts e.g., the people and their personal and professional characteristics, the nature of the setting, the elements of the program itself (planning, implementation, decision-making regarding purposes), the role of support services and materials, behaviors of participants, perceptions of benefit/deceit, evaluation, and the interaction of all of the above (p. 3).

This list was not exhaustive; however, it did give reason for researchers to steer away from systematically studying staff development programs. A second explanation for the difficulty in researching staff development was related to the school community. Most research conducted within school sites have used the schools and the people therein as targets. This situation constituted the

adaptation of the setting to fit the purposes of the research (e.g., size and arrangements of the discussion groups, selected curricula content, extended instructional time). The point was that these research adaptations were in staff development. These attempts to conduct research served the researcher's intent but frequently not the school's. A third explanation for this scant body of research was the interaction of the school's interest and the researcher's in the research results. In other words, the school wanted immediate feedback and explanation of research findings so that they could be put into practice. In the research community, however, it took years to put research findings into practical application (Griffin, 1982).

In light of these difficulties, Griffin (1982) suggested that issues concerning the context, assessment, content, and process of staff development programs needed to be addressed through research in order to plan, conduct, and evaluate "ideal" staff development programs. Context, which included the physical environment, histories, influencers, missions, and capabilities of the setting, were central sets of characteristics that influenced teachers and others to produce desired behavior. Assessment referred to the ability to carefully assess both the observed and perceived needs of teachers to determine the degree of what was needed or desired and whether it could be targeted in a staff development project. The content of staff development could range from attempting to change an entire system to attempting to change a small part of the teachers' storehouse of knowledge. The process of

"doing" the staff development project referred to the methods and techniques chosen to deliver the knowledge to the participants.

After examining these issues, Griffin (1982) speculated about an "ideal" staff development program. The following has been identified as a set of features he believed to be consistent with the research findings from the Interactive Research and Development on Teaching (IR&DT) study, thus portraying an image of the "ideal" staff development program while focusing on the problems and issues of staff development.

1. A staff development program would be designed as a consequence of systematic problem identification by those persons most directly related to the problem.
2. A staff development program would be interactive.
3. A staff development program would, to some degree, recreate a school organization from pyramidal to flat.
4. A staff development program would depend less upon external support systems and more upon internal ones for substantive and procedural guidance.
5. A staff development program would be formulated and monitored with the perceptions of the participants as central foci for decision making.
6. A staff development program would be formulated, in part, in terms of a careful analysis of the organization and the people for whom it was intended.
7. A staff development program would be flexible and responsive.
8. A staff development program would be, within reasonable limits, situation-specific.

A perspective provided by Howey and Zimpher (1985) has also been complimentary to Griffin's recommendations. They suggested a tentative

criterion for (re)designing programs of staff development. Central within their recommendations was the role of the teachers--as primary and vocal participants involved in determination of program agenda(s). (Re)design was also thought to require programs that addressed multiple purposes and were responsive to the multiple roles and role relationships of teachers. Programs were described as supporting planning by management personnel, providing a balanced agenda of goals at state, local, and school levels, as well as incorporating both internal and external resources and expertise. Moreover, staff development was viewed as "programs" in its own right, e.g., with a mission statement, policy guidelines, resources, budget, and personnel.

Howey and Zimpher's (1985) recommendations and Griffin's (1982) visions of the "ideal" with the descriptions of existing normative practices described earlier presented striking contrasts. It appeared that the gap between what could be available and what was available was wide. The following pages have focused on aspects of the context for staff development that many have considered a central issue in understanding and bringing about improvements in staff development programs.

The Disincentives of the Workplace. Scant attention has been paid as to how the disincentives of the workplace have deterred effective staff development. Workplaces were viewed as settings for student learning and rarely were considered as environments for teacher learning. Chism (1984) suggested that, rather than considering the

context in which development should take place, teachers were "pressured" into improving their teaching. Not surprisingly then, teachers were overlooked as vital resources for their contributions of effort, commitment, and involvement that could lead to effective schools (Rosenholtz, 1986). Thus, the schools should focus on the ability to motivate teachers to continue their contributions toward academic success, rather than turning these efforts, commitments and involvements to other arenas.

The most prevailing condition which promoted outstanding teacher behaviors and commitment to work has been described as internal motivation (Rosenholtz, 1986). That was, commitment could be viewed as the extent of the teacher's work investment, performance quality, satisfaction, attendance, and desire to remain in the profession. Rosenholtz (1986) suggested that motivation and commitment were dependent to a great extent on how tasks were designed and managed. Thus, the focus was on conditions within the workplace rather than on the personal qualities that teachers bring to the workplace. Hackman & Oldham (1980) studied organizational settings and the ways a person's attitudes and behaviors were shaped within. They identified three conditions of work that were conducive to quality and commitment. First, people had knowledge of the success of their efforts. Teachers needed positive feedback concerning their work performance which gave them an estimate of their particular worth in a performance-based context. Lortie (1975) supported this notion, suggesting that teachers

derived their strongest rewards from the positive and academically successful relations with individual students and from external recognition received from parents, colleagues and principals.

A second condition of the workplace was task autonomy and discretion. That was, teachers needed to feel capable and responsible for their own work efforts and understand that what they personally did made a difference.

A third condition was the experienced meaningfulness of the work itself. Teachers valued their work efforts and felt that work was important to what they valued and believed (Rosenholtz, 1986). Whenever work was not valued, there was little reason for the teacher to feel good themselves or about their accomplishments. For many teachers, once the subject matter and the daily routines of teaching and using materials were mastered, boredom, lack of enthusiasm and a lack of ability to motivate self could set in. New challenges were initiated whenever people felt there was a reasonable chance of success and whenever they were confident that their efforts would be productive (Campbell & Pritchard, 1975). Work meaningfulness was again bolstered when teachers believed that they had an impact on their students. When teachers' efforts were recognized as contributing to significant strides toward resolving critical issues, work took on new meaning (Hackman & Oldham, 1980).

Beginning teachers were highly susceptible to fears of being inefficient (Chapman, 1983) and suffering the repercussions of these

effects. Usually new teachers found themselves in the most unwanted environmental conditions of the workplace i.e., (the "floating" teacher, large class sizes, course overloads, and low SES students), and this in itself was enough to cause beginning teachers to feel inefficient. With this as a backdrop, a snapshot of early career attrition could easily be developed (Rosenholtz, 1986). As new teachers experienced failures related to classroom practices and/or student achievement, they lost the confidence needed to make a contribution to students' lives. This feeling alone was enough to produce anxiety and frustrations.

Work can be perceived as more meaningful if teachers had professional growth opportunities (Rosenholtz, 1986). These intervention opportunities could be provided through the implementation of teacher induction programs that could exist in schools. Rosenholtz (1986) offered the following as conditions that schools should provide to lower the attrition rates of beginning teachers and to seduce the academically talented to stay in the profession. These included not placing beginning teachers in the most difficult teaching situations; providing participation in the decision-making process between colleagues and administrators; establishing clear goals which would be cooperatively set by administrators, colleagues, and beginners; providing opportunities to talk frequently with expert colleagues; and setting up a mutual observation process.

Interventions

Various approaches have emerged in addressing the problems of transition from teacher preparation to teaching practice. These approaches, referred to here as interventions in the socialization of teachers, have been generally defined as ways of improving teaching and facilitating the adjustments of teachers and helping them improve their practices. Three general approaches to intervention have been outlined in this section, including: induction, mentoring, and classroom management. The first, induction, has been defined as an intervention phase of teacher development. The second, mentoring, has been defined as a process for providing assistance to beginning teachers. The last intervention, classroom management, introduced ideas about a form of knowledge believed to be useful in assisting beginning teachers to become more effective classroom managers.

Induction

The role of induction as an intervention phase of professional teacher development has emerged as the state of the art in teacher education. Induction has been viewed by many researchers as the solution or panacea for helping beginning teachers adapt to their new environments in a more humane manner than the "sink or swim" approach. Howey and Zimpher (1985) suggested that society and policymakers should broaden their scope in viewing induction as a solution. Although there has been little information available to support one particular

approach for induction, it has seemed apparent that many teachers have become discouraged and alienated because of the lack of support and assistance. Whether a school district or university, or both, should accept responsibility for induction has been almost a moot issue; certainly an opportunity for collaboration between the two did exist, and continues to exist.

In addition to the suggestions by policymakers and the society at large, eight activities which higher education might engage in, usually in collaboration with schools, which could enhance induction programs as a solution for assisting beginning teachers in adapting to their new environments, were offered by Howey and Zimpher (1985). These included:

1. Assisting in the identification, explication and resolution of the problems and issues attendant to entry-year assistance;
2. Providing realistic perspectives for what was still needed for those teachers as well as what realistically could be expected in terms of performance and further growth during the first year;
3. Clarifying and communicating what were realistic ongoing working relationships and what were appropriate divisions of labor from the beginning teachers;
4. Providing direct service in the way of continuing education to beginning teachers;
5. Providing indirect services to the beginning teacher through a variety of services to mentors or master teachers who would work with beginning teachers. These included: assistance in defining roles and responsibilities, identifying incentives that would attract mentors, assisting in selection criteria, providing various forms of training, assisting in matching mentors and inductees or new teachers, and providing continuing support for teachers in these leadership roles.
6. Helping to establish conditions which allow a more clinical and reflective approach to teaching and learning to teach;
7. Providing training activities mutually beneficial to mentors and beginning teachers;

8. Clarifying prior theoretical and empirical efforts which provided direction for needed research into how best to proceed with providing assistance and enabling beginning teachers to learn how to teach on the job (p. 22).

It has appeared that society, policymakers and higher education institutions all had intentions of implementing induction as a solution to improve beginning teachers' problems. However, these intentions might have seemed irrelevant to decision makers unless they were provided with a framework, i.e., a rationale for why and how induction programs would help.

Frameworks for the Study of Induction. Veenman (1984) posed three perspectives on the development of beginning teachers which could serve as frameworks for designing teacher induction programs. First was the recognition of the existence of developmental stages of concern (Fuller, 1969; Fuller & Bown, 1975). From this perspective, there was a recognition of the stages of teacher concern: from survival, to improvement of self, to a focus on student learner outcomes. The second perspective was a cognitive development framework that focused on the teacher as an adult learner. This perspective suggested a hierarchy from less to more complex cognitive activities (Sprinthall & Thies-Sprinthall, 1983) and suggested ways to identify levels of cognitive ability. The third framework on teacher socialization focused on how beginning teachers adapted to the role of teacher, gave meaning to their beliefs, and adapted to the beliefs of others (Zeichner, 1979; Zeichner & Grant, 1981; Zeichner & Tabachnick, 1982). Howey and Zimpher (1986) "contended that these approaches constituted

vital references for the thought patterns and belief systems of beginning teachers and the impact of school context on these characteristics" (p. 9). In addition, they also posed a framework for the development of preservice education improvements (cf. Evertson, et al. 1984) and/or inservice education improvements (Howey & Zimpher, 1986).

The frameworks presented above were a reflection of Veenman's own discovery related to induction. They went beyond the reporting of statistics on perceived problems of beginning teachers and served as guideposts for designers of induction programs as they sought ways to intervene with beginning teachers' traumas. Howey and Zimpher (1986) regarded the frameworks as a theoretical approach to defining the nature of induction programs. That was, these frameworks might be used differently if they were addressing the individual concerns of teachers, but in addressing the long range development concerns and cognitive development, they gave substance and explanation for changes the individuals go through and the methods by which change occurred. Focusing on the socialization framework, attention could be given to changes in the nature of the institutional setting, the condition of the workplace, and the professional development needs of the beginning teacher.

Howey and Zimpher (1986) proposed that study of the induction years should be multidimensional. Research should probe particular theoretical assumptions and focus on theoretical frameworks which had

promise of building realistic expectations for the novice teacher, including looking at mentoring processes. As the processing and programming of theoretical models were explicated, much insight could be gained about induction practices.

Mentoring as a Framework for Viewing Induction Programs. Relying on Veenman's (1984) socialization theory, critical questions could be explicated pertaining to the context of institutional settings and the workplace as conditions where beginning teachers assumed their professional roles. This socialization framework assumed some strong possibilities for testing collegiality as a theoretical reference for studying induction programs (Howey & Zimpher, 1986). Generally referred to as mentoring, the collegiality typically took either of two forms. One was formal assignment of a mentor teacher to an inductee (beginning) teacher. The other was informal, i.e., mentoring processes that occurred naturally in a school setting. Questions continuously arose about whether or not the formal mentoring process was as powerful as the informal, i.e. mentoring processes occurring naturally in school settings. As a result, the central focus of the collegial model was the assumption that by sharing problems and issues as a paired team, the teacher's performance could be improved (Howey & Zimpher, 1986).

Exemplary Models for Induction Programs. The message that created a "drumbeat across the nation" for improving education focused on the overarching concern for easing the period of transition from student teacher to teacher. In other words, no matter what the condition,

format, or framework that a particular phase of professional teacher development (preservice, inservice, or induction) may adopt, it would not be effective unless designers attempted to implant the personal, social, and cognitive developmental issues in the lives of beginning teachers. Unless these developmental issues were embedded in induction programs, attempts to ease the transition period for beginning teachers and to improve education would not succeed.

Howey and Zimpher (1985) reviewed several programs, although varying in nature and context, that served to demonstrate the successes and failures of induction programs. For instance, Edwards (1983) examined state-mandated programs in which teachers were required to pass through an induction program before they could receive their certification. The programs involved local teams of building administrators, experienced teachers and teacher inductees, and classroom observations and feedback were required. Findings in the Edwards' study indicated that: (a) state policy had an impact on local practices; (b) team teachers' interactions ranged from high levels of motivation and support to simply completing forms and attending meetings; (c) certification of new teachers was not in jeopardy nor were their recommendations; (d) reactions were mixed between useful and redundant; (e) contextual conditions were sometimes a deterrent to successful program completion; and (f) validity and reliability of the

observation instruments were questionable. Overall, the process was viewed as an assessment vehicle rather than as a means of instructional improvement.

Concerns drawn from the Edwards study related to the time and resources available (i.e., time for the assignments, observations, and workshops); more and better training for veteran teachers in classroom observation; the contrast in veteran teachers who either felt genuinely committed or felt they were fulfilling a state requirement; the fact that all participants felt a sense of vulnerability (e.g., veterans felt they couldn't complete assignments and novices felt unable to question observers' judgments). In essence, it was concluded that situational contingencies, such as time and resources had a critical impact on the effectiveness of induction programs (Howey, et al., 1985).

Another exemplary model implemented was The Charlotte-Mecklenberg Teacher Career Development Program (Schlecty et al., 1985). Several assumptions undergirded the program. First, teachers were viewed as managers, not production-line workers. Second, tenure was viewed as a reward that should not be granted unless the teacher could demonstrate classroom competence. Third, evaluation was viewed as involving human judgment and human values. In addition, Schlecty (1985) pointed out the six levels of this career-ladder structure: provisional teacher, career nominee, career candidate, career level I, career level II, and career level III. Howey and Zimpher (1985)

emphasized that at the provisional level, teachers concentrated almost exclusively on classroom instruction and special interest programs designed for novices. At the heart of this program were the salient features of teacher evaluation in which teachers received feedback after scheduled observations.

The Tennessee Career Ladder Program evolved as part of several reforms undertaken through the Tennessee Comprehensive Education Reform Act of 1984. Howey and Zimpher examined this induction program as an attempt to draw a relationship between the program and Tennessee's commitment to general professional development. This plan provided evaluatees with continuous feedback on their strengths and weaknesses and suggestions were made regarding the need for instructional improvement.

Finally, Howey and Zimpher (1985) reviewed an exemplary career ladder program in Temple City, California, even though the program was no longer in existence. It was known for its failures as much as for its successes. The basic assumptions were: 1) teachers should be given the opportunity to move up a career ladder; 2) good teachers should remain in the classroom; and 3) students should be the ultimate benefactors of the program. Developed in the 1960s, the Temple City program had four career stages: associate teacher, staff teacher, senior teacher, and master teacher. Inductee teachers were at the bottom rung of the ladder as associate teachers. The design consisted of instructional teams formulated around the four career stages. In

addition, paraprofessionals were employed to release teachers from the regular classroom duties, thus allowing time to engage in the program's activities.

Freiberg (1985) offered several reasons why the California program failed. First, teachers were not prepared for the changes in work environment involving teams, assessment and time required. Parents were concerned that the best teachers would be removed from the classrooms. Roles and responsibilities were difficult to distinguish, especially at salary time, and the career-ladder structure created a mushrooming and eventually unaffordable financial drain. Supervisory staff were often in direct conflict with the supervisory responsibilities of master teachers, and finally, there was no empirical evidence to support that these programs would create a desire for better teachers to remain longer in the classrooms. Freiberg's (1985) recommendations for improved induction programs included: (a) horizontally created programs enticing teachers to experience leadership roles; (b) school improvement goals that focused on a beginning teacher program; (c) a competitive salary structure; (d) a variety of incentives, e.g., sabbaticals; and (e) self-evaluation opportunities and research grant monies for instructional improvement.

Although there was a great deal of understanding related to the problems of beginning teachers, little was known about programs that effectively assisted new teachers during the induction phase of professional teacher development (Fox & Singletary, 1986). These

authors deduced several goals which would give support for induction programs. Their concept of induction was as a way of addressing beginning teachers' concerns through a comprehensive teacher induction program. The following elements were recommended and should be included: provisions for acquiring additional knowledge and instructional skill; opportunities for developing attitudes that foster effective teaching performance; assistance in recognizing the effects of isolation; and assistance in becoming integrated into the school district and community.

The first element involved focus and theme. Although research on the problem of beginning teachers listed classroom management and discipline as a strong concern, (Applegate, Flora, Johnston, Lasley, Mager, Newman, Ryan, 1977; Veenman, 1984; Gaede, 1976) designers must be flexible in accommodating individual teacher needs. Planning topics of interest might be done in groups in order to meet the diverse needs of the participants.

The second element was that the program should have included instructors and facilitators from the university setting rather than the school setting. New teachers often felt uneasy working with school district personnel because they saw them as evaluators. Responsibility for induction programs should be shared by the university, schools, community, and state agencies (cf. Howsam, Corrigan, Denmark, & Nash, 1976). The third element to consider was the location and scheduling. The induction seminar was likely to be more effective if not held on a school site. Again, beginning teachers may have felt threatened to

share their mistakes and concerns if they felt these issues might be held by other passers-by. The key element in designing induction programs seemed to be an assistance and support model that encouraged self-evaluation through reflection activities. This model provided the new teachers with opportunities to reduce the complexities of teaching.

What Researchers Say About Induction. There was little research available for planning induction programs, yet high levels of interest in developing such programs were evident from the program described above. Griffin (1986) reported preliminary findings of the Research in Teacher Education (RITE) studies that were conducted on teacher induction programs. Several questions were raised, that if answered, would increase the knowledge base on teacher induction and would contribute to more effective and successful induction programs. The most pressing research issues in this decade, both academically and practically, as suggested by Griffin, were as follows:

1. Research findings, when used as content for teacher induction programs must support the assumptions of integrity and accountability, e.g., correlational studies when used as a rationale for the study of pupil outcomes must support this notion or these studies must be altered. Therefore, it must be determined to what degree certain methods of research can still be used to account for certain outcome measures.
2. Research must find out if teacher induction programs were a help or hinderance; there was some indication that new teachers felt their teaching was narrowed by some induction programs.
3. Research must discover to what degree, if any, some teacher induction programs were serving as a "gatekeeping" function, i.e., weeding less effective teachers out of schools and more effective teachers into the schools.
4. Research must determine if the procedures and practice cited by some teacher induction programs were indeed valid and

reliable, i.e., persons in charge of carrying out data collection procedures and interpreting them might be in error, thus resulting in flaws which were open to legal and moral issues.

5. Research must gain insight into aligning current induction programs with the concept of excellence in teaching, i.e. the fear lingering in some educators' minds was one where the search for excellence might convert teachers into technicians, or production-line workers rather than decision-makers, and into followers not leaders.

Funded Proposals for Research on Induction. Several agencies have been providing grant support for the improvement of teacher education, and recently have focused on the preservice and induction phases of teaching. Some of these grants evolved from research laboratories, including the Office of Educational Research and Improvement (OERI). In an attempt to explore what research was presently underway, an analysis of 30 projects funded in July, 1985 by OERI (formerly the National Institute of Education) were synthesized. One of the 30 funded OERI projects was the Franklin County/OSU project, which provided the setting in which the present dissertation research was embedded. An overview of this project has also been included.

Vaughn (1986) examined these types of changes proposed in the 30 projects, the variety of collaborative arrangements for planning and developing the outcomes envisioned, and plans for assessment of those outcomes. An additional focus was on how various features of the proposals were consistent or contrary with existing research knowledge and practical wisdom. An essential requirement of the 30 projects was that efforts be made to utilize research to bring about improvements in teacher education. University-school collaboration was required in the design, implementation, and evaluation efforts as well as active

involvement of the Institution of Higher Education (IHE). Recipients were to allocate 75 percent of their resources to the improvement of preservice teacher education and 25 percent to the improvement of beginning teachers. Following review, 30 projects in 21 states and the District of Columbia were funded. In terms of changes in current practices, most proposals focused on one or two elements as a starting point. The most "popular" were in the areas of clinical supervision (e.g., with pre-student teaching, or beginning teachers) and problem-solving, creative thinking and reflective inquiry. Vaughn (1986) cited a criticism in the scant attention devoted to the conditions of the school as a workplace.

In sum, the realities and expectations of developing induction programs needed to be clarified. Huling-Austin (1985) suggested that for those faced with conceptualizing and designing programs, it was essential to think through what could and what could not reasonably be expected as they set goals and made decisions related to the implementation. The idea of induction programs which helped beginning teachers have a smoother transition into the world of teaching was tremendously promising. However, at the same time, beginning teacher programs could not be expected to transform the whole educational enterprise. Policymakers and practitioners needed to recognize that induction programs were not a means to an end but, rather, a way to accomplish benefits that could be appreciated for what they were and not degraded for what they were not (Huling-Austin, 1985).

In essence, the socialization of beginning teachers was an understandably complex process. To socialize teachers more in the directions that provided conducive environments for growth, both personally and professionally, called for a coordinated effort in all phases of teacher education and changes in the context and conditions of schools, especially in terms of the role-relationships of teachers.

Mentoring

As a way to improve the induction phase of professional teacher development, several school districts have recently initiated programs in which experienced teachers have been selected to serve as mentors to beginning teachers (Gray & Gray, 1985). Classroom teachers have taken on new roles as master or mentor teachers, peer coaches, advisors, or consultants for beginning teachers (Shalaway, 1985). No matter what the name, several programs appeared to have the same intent, that was, to assist beginning teachers in becoming effective teachers.

These pairing arrangements were also intended to make the induction phase of teaching a more pleasant transition into the world of work. Gray, et al., (1985) suggested that the pairing provided support for the beginning teachers as well as offering leadership opportunities for the mentor teachers. In addressing these issues, this section has defined mentor teacher, investigated the theoretical background for mentoring, discussed mentoring processes among teachers, described mentoring systems in induction programs, reviewed mentoring in the

business profession, discussed the essential elements for designing a mentoring system for beginning teachers, and finally, examined the benefits of mentors as colleagues as well as revealed six major principles behind the success of mentor-inductee interactions.

Mentor Defined. The term "mentor" was not new. Mentor denoted a trusted guide and counselor, and the mentor-protege relationship suggested a deep and meaningful association between or among professionals (Galvez-Hjornevik, 1985). Historically, mentoring has had a long record of success. The idea dates back some 3500 years, beginning with Odysseus' decision to entrust the education and development of his son to a wise and learned man named Mentor (Galvez-Hjornevik, 1985). The notion has continued to its present application in training nurses, psychologists, sociologists, scientists, teachers, educational administrators, and business executives (Gray & Gray, 1985; Gray & Rogers, 1982; Levinson, 1978). The term "mentor" today has been used loosely to mean teacher, coach, trainer, positive role model, developer of talent, opener of doors, protector, sponsor, and successful leader (Schein, 1978).

The definition and role of mentor has varied among authors, across occupations, and could be construed in a variety of ways. However, in the educational arena the term mentor was defined as an experienced teacher who was personable in dealing with other teachers, a master of the craft of teaching, and who understood the needs for the mentorship role (Bird, 1985). In most programs, the mentor teacher was not an evaluator and had no part in hiring or firing decisions (cf. Howey,

et al., 1985 for notable exceptions). Although definitions differed from one profession to another, a common ground was typically shared regarding the theoretical foundations of mentoring (Galvez-Hjornevik, 1985).

Theoretical Background for Mentoring. Galvez-Hjornevik (1985) traced the theory base for mentoring processes to studies of adult development. The importance of the maturation of adults was emphasized by many researchers as they sought out solutions to the complexities of the mentor-inductee relationships (Merriam, 1983). Levinson (1978) traced the adulthood of 40 men between the ages of 35 and 40. The role of the mentor was identified as multifaceted with an emphasis on the necessity "to support and facilitate the realization of the dream of the protege" (p. 98). Levinson stated:

The true mentor fosters the young adult's development by believing in him, sharing the youthful dream and giving it his blessing, helping to define the newly emerging self in its newly discovered world, and creating a space in which the young man can work on a reasonably satisfactory life structure that contains the dream (p. 98-99).

It was concluded that the most successful men had had mentors as young adults whom they sought out in the early adult stage. This study, along with others (Bova & Phillips, 1982; Weber, 1980; Kram, 1983; Merriam, 1983) supported the need for senior adults who supported and encouraged young adults in realizing their dreams. In addition, mentoring was recognized by Kram (1983) as significant for the maturation of the senior participant and by Merriam (1983) as a need to guide the next generation. Schmidt and Wolfe (1980) contended

that mentoring helped experienced employees understand the significance of their lives and professional contributions. These studies all suggested that younger adults seek out a mentor as a means of fitting into a "space" within their working world.

Mentoring Research in the Business Profession. The works of Levinson (1978), Zey (1984), Hunt and Michael (1983), and Kram (1983), all focusing on mentoring in business professions, suggested that qualities of the mentor would affect the mentor-protege relationship. Levinson (1978) identified the primary function of the mentor as being a transitional figure in the roles of both parent and peer. Zey (1984), through a series of interviews of managers in corporations, suggested that mentors provide an organizational "road map" to educate the protege on less visible aspects of the organization, e.g., the structures, politics and personalities within the organization. Senior participants were able to draw sketches of both the organization and its members and to provide important information not ordinarily attainable by the protege. Hunt and Michael (1983) identified the mentor's age and gender, organizational position, power, and self-confidence as important features that characterize a mentor. Age differences were identified as an intervening variable in the mentor-protege relationship development, with a span of not less than 6-8 years or more than 20 years as critical for development of a collaborative environment.

Kram (1983) stated that another dimension concerning age and the mentor relationship existed which related to the psycho-social functions for senior participants in mid-life. The psycho-social functions were dependent on the degree of trust and mutual respect that characterized the mentor-inductee relationship. Hunt and Michael added that the male-female relationship was another trait influencing the mentor relationship. They contended that tensions and fears, public concerns, and the traditional stereotypical male-female roles could stand to govern this relationship. In sum, the characteristics of age and gender have been shown to influence the effectiveness of mentor-protege relationships (Galvez-Hjornevik, 1985).

Zey (1984) investigated the qualities most essential in selecting a mentor and protege and offered nine questions for selecting a mentor:

1. Is the mentor good at what they do?
2. Is the mentor getting support?
3. How does the organization judge the mentor?
4. Is the mentor a good teacher?
5. Is the mentor a good motivator?
6. What are the protege's needs and goals of the prospective mentor?
7. What are the needs and goals of the prospective mentor?
8. How powerful is the mentor?
9. Is the mentor secure in his own position?

(Zey, 1984, p. 167).

Zey (1984) further recommended that mentors should look for the following in proteges in organizations:

1. Intelligence
2. Ambition
3. Desire and ability to accept power and risk
4. Ability to perform the mentor's job
5. Loyalty
6. Similar perceptions of work and organization
7. Commitment to organization
8. Organizational savvy
9. Positive perception of the protege by the organization
10. Ability to establish alliances

(Zey, 1984, p. 182).

Additionally, Zey (1984) found that a strong interpersonal relationship was not necessary for a good mentor-protege relationship; what was crucial was the ability for the mentor-protege to work together. Phillip-Jones (1983) had adapted guidelines from the business literature on mentoring that were applicable to teaching:

1. The top administrative officials of the school district or university must support the program.
2. The formal mentoring program, if possible, must be a part of a larger career development model in order to stabilize the success of mentoring activities.
3. The program must be voluntary.
4. Short term commitments, usually 6 months, should be made between mentor and proteges.
5. Mentors should be carefully selected.
6. Mentor teachers should be allowed to conduct activities incorporating their own style after having received formal mentor training.

7. Mentor teachers engaged in formal induction programs, should receive some type of reinforcements.
8. Mentor and inductee should have a working environment that was accessible to each other.
9. Mentor and inductee should establish an exact written list of activities and expectations for each party to indulge.
10. A systematic monitoring system should be agreed upon by both parties.
11. Continuous goal setting should be engaged in by the beginning teacher and should be based on detailed observations by the mentor teacher (p. 183).

This list could be used as a starting point for educators who were developing induction programs in their school districts or state. For example, the designers of induction programs that incorporated mentoring as a part of their program features might benefit from information regarding the characteristics of mentor-protege relationships, as well as the selection criteria for a mentor and protege. These suggestions presented by the business researchers and implemented by the educators could certainly be a valuable asset to school districts who utilized this knowledge in planning and developing programs. In sum, Levinson (1978) stressed the relevance of mentoring in the following statement:

Poor mentoring in early adulthood was the equivalent of poor parenting in childhood: without adequate mentoring a young man's or woman's entry into the adult world was greatly hampered. Some degree of emotional support, guidance and sponsorship is needed to smooth the way and make the journey worthwhile (p. 338).

Mentoring Among Teachers. Two studies have examined mentoring processes as naturally evolving relationships within the context of teaching. Fagan and Walters (1982) asked 107 public school teachers

and a comparison group of 70 police officers and 87 nurses to evaluate and report their experiences as mentors and proteges in informal relationships. The purpose was to assess the frequency and nature of the mentoring, and to examine the relationships among job satisfaction, job burnout, and a variety of personal characteristics. The definition of mentor used in the study was "an experienced adult who befriended and guided a less experienced adult and one who offered support, advice, and opportunity to a young adult." Although the rationale for comparing experiences in this mixture of professions was unclear, results indicated that mentoring was indeed occurring among teachers in the schools. Recommendations to school administrators who wanted to increase mentoring among faculty were provided:

1. Teach novice and veteran teachers the importance of mentoring.
2. Reinforce veteran teachers who showed a sincere interest in helping beginners (e.g., praise, extra training, time off, pay raises).
3. Arrange the work environment so it was conducive to senior and junior teachers becoming friends (e.g., allow time for social exchanges within the work day and promote off-work social activities).

Galvez-Hjornevik (1985) reviewed a study conducted by Gehrke and Kay (1984) regarding the presence of mentoring among teachers and the nature of the mentored relationships. A sample of 300 teachers from 12 schools (elementary, middle, and high school) in a large western suburban school district were asked to complete a questionnaire concerning their careers in teaching. The teachers identified the roles most frequently filled as those of confidant, role model,

developer of talents, and sponsor. The question of how mentor-protégé relationships developed in the school setting was also addressed:

. . . teachers said the relationship began when they came into contact with the potential mentor in an educational setting such as in a class or in their first teaching assignment. Reports of the teachers suggested that the relationship began with signals from the potential mentor that they were "taking an interest" in the teacher. Such behavior invited frequently and apparently friendly visits to the classroom. Joking informal conversations, and encouraging remarks were seen as this special attention labeled "taking an interest" (Gehrke & Kay, cited in Galvez-Hjornevik, 1985, p. 42).

Findings indicated that when the mentor and protégé met, it was for the specific purpose of teacher training. Whenever that purpose was satisfied, the relationship was over. The researchers indicated that there was no structure for social or personal contacts. Additional findings indicated potential benefits of the mentoring relationship: one-fourth of the teachers claimed they would not have made the same career choice if it had not been for their mentors; others believed that finding a mentor was important to a teaching career, and all but one indicated a desire to become a mentor themselves. Conclusions were drawn about a "legacy of mentors and sponsors" i.e., an intent to assume the helper's role when one had been helped." In essence, then, mentoring does exist as a naturally evolving process among teachers. The knowledge base, however, was very limited.

Mentoring Embedded in Induction Programs. In spite of the limited information base on mentoring processes in schools, mentoring has been adopted as a formally defined component of several induction programs. In other words, attempts have been made and are in progress to implement and institutionalize mentoring processes. In this way,

mentoring processes have become and are becoming a part of the existing structures within the induction phase of professional development. A brief review of these innovative programs follow.

The Career Development Program (CDP) of the Charlotte-Mecklenburg Schools was designed to help new teachers adapt to the system's performance expectations (Schlechy, 1985). This program was state mandated, thus insuring the participation of beginning teachers in the training activities. Beginning teachers were made aware of the literature on effective teaching and were given the opportunity for practice and demonstration of effective teaching skills with peers, experienced teachers and administrators. In addition, they were assigned to advisory/assessment teams which were comprised of the principal, the principal in charge of instruction, and a senior mentor teacher, each of whom were expected to observe and confer frequently with the new teachers and provide them with support in locating needed resources. A weakness cited by Schlechy (1985) was the program's lack of systematic training and support for the mentors, advisory assessment teams, principals, and assistant principals of instruction.

A second, similar program, was launched in Toledo, Ohio (Waters & Wyatt, 1985). It featured an intern-intervention program using experienced teachers to train and evaluate beginning teachers. In this plan, seven "consulting teachers" supervised nearly seventy beginning teachers. In order to be chosen as a consulting teacher they had to possess the following: a) five years of outstanding teaching service; b) confidential references confirming outstanding experiences from

their principal, union representatives, and three peer teachers; and c) demonstrated ability in written and oral expression. These consultants were chosen for a three year term and upon completion of the term, were to return to their classroom assignments. The focus of the new teacher's development included skills in classroom management, teaching techniques, and content knowledge. Consultants' responsibilities to the interns included pointing out deficiencies, suggesting new teaching methods and/or demonstrating a sample lesson. It must be noted that, although the consultants in the Toledo Intern-Intervention program were not mentors (as described earlier), they fulfilled mentor-like roles.

A Mentor Teacher Pilot Project was developed through the collaboration efforts of the Bureau of Staff Development in New York City and the Barnard College of Education faculty. This program was unusual in that it utilized retired teachers to assume the "mentor role" with beginning teachers. The objectives for the inductees included: (a) developing their own teaching styles and confidence; (b) becoming decision makers in their classrooms; (c) understanding children's cognitive and affective needs; (d) becoming sensitive to different learning styles; and (e) broadening and deepen their repertoire of learning activities and effective ways of teaching and coping with the first year (Sacks & Brady, 1985, p. 17).

A fourth induction program was a uniquely designed proposal by Benningfield (1984) to establish demonstration schools for the Jefferson County Public Schools soliciting the assistance of the

University of Louisville, in Louisville, Kentucky. This proposed demonstration school incorporated the use of a "master/mentor" for faculty development and inservice. The faculty was selected from outstanding master/mentor teachers. Selection criteria included demonstrated expertise as a classroom teacher, the ability to demonstrate this expertise to other teachers, leadership ability, and the potential to engage in education research.

In the Benningfield design, the faculty engaged in regular classroom assignments and served as mentors to visiting teachers who came to the demonstration schools. These visiting teachers were assigned a mentor teacher; then the visiting teacher studied new teaching techniques and curricular approaches used by the mentor for at least sixteen weeks. After this period, the visiting teacher qualified as a candidate for a master teacher status. They would then return to their original schools in order to modify their methodology of teaching. This induction program recognized the demands placed on the mentor teachers and, therefore, proposed a salary which was competitive and commensurate with that of engineers in American society.

Designing a Mentor Program. The preceding sections served to increase the knowledge base that existed about mentors and mentoring for those interested in designing a mentor program. Research focused on the mentoring concept in terms of its utility for developing effective mentor-inductee relationships. In addition, the mentoring concept in the teaching world as it relates to the business world has been highlighted for utilization in teaching. Thus, what remained was

initial information to consider when designing a mentor program, characteristics of effective mentors, and the essential elements of mentor-inductee relationships.

Before educators could begin to design a mentoring system, it was essential to clarify what the system could and could not do. It was not reasonable to expect mentors to satisfy the beginning teacher's every need (Driscoll, Peterson, & Kauchak, 1985). In other words, routine information that was generic to all teachers should be received in the same manner. Beginning teachers needed individual attention which was focused on self and classroom life (Compton, 1979; Isaacson, 1981). Thus, when beginning teachers were asked to rate the importance of a mentor, the most important assistance listed was a focus on classroom performance, which indicated that beginning teachers needed and desired feedback from their mentor teacher. The least important rating was listening to new teachers' concerns and receiving general information. Additionally, this same group of beginning teachers listed several ways in which the mentor teacher was most helpful to them, i.e., serving as a source of ideas, being accessible and understanding, and offering assistance on classroom management. From these findings, it was axiomatic that beginning teachers needed a mentor teacher who was knowledgeable in these areas and willing to provide assistance.

Characteristics that described the ideal mentor were listed by beginning teachers in a survey conducted by Driscoll, et al., (1985).

The survey revealed the following as characteristics of mentors as reported by beginning teachers: confidence, ability to be articulate, the use of reinforcement, creativity, high energy level, kindness, sincerity, and organization. It should be noted that even though the ideal mentor was seen as a source of positive feelings, the ideal mentor was not viewed as an ideal person. Information relating to the criteria for selection of a mentor was identified. Beginning teachers stated that matching mentor teachers with inductee teachers should be done according to the grade level and subject content taught (Driscoll, et al., 1985). In addition, beginning teachers offered the following as screening criteria for selecting mentors (ranked in descending importance): time available, concern for beginning teachers, communicative-supportive personality, and professional competence. Criteria least frequently mentioned were professionalism and teaching style.

These desirable characteristics as described by the beginning teacher were essential elements in structuring the mentor-inductee relationships. Warren-Little (1985) suggested that the dynamics of a mentoring relationship were developed in the mutuality that went on during meetings between the mentor and the inductee. New teachers and mentor teachers should have a shared agenda with a mutually agreed upon focus (Warren-Little, 1985). The beginning teacher should have assumed the lead role in identifying the problems that they wished to focus on and the mentor teacher then translated these problems into a concrete working agenda. This shared agenda was then constructed in a way that

best met the inductees needs, e.g., readings, visitations to other classrooms, or direct observation of the inductee's classroom by the mentor who then provided feedback to the inductee. This type of mentoring relationship provided vital information for both the mentor and inductee and was crucial to a healthy mentoring relationship. Driscoll et al., (1985) added that before an observation was scheduled, a pre-observation conference should be preceded with a focus on the procedures for the observation and these procedures should be agreed upon by both the mentor and inductee. Following this observation, Driscoll (1985) pointed out that a post-observation was essential in analyzing the information gathered to discuss relevant issues. Huling-Austin (1985) agreed that data from classroom observations could assist beginning teachers and described several ways that experienced (mentor) teachers could function as colleagues in assisting beginning teachers during their first years of teaching. Three ways were suggested: impromptu conversation, prearranged conferences, (which may have a pre-established or emergent agenda) and classroom observations. These three types of interactive strategies were implemented in a study of first-year and support teachers conducted by the Research and Development Center for Teacher Education in Austin, Texas. The significance of these strategies was that they were found to be useful in contributing to the repertoire of assistance techniques used by mentor teachers in other induction programs. In sum, the mentoring relationship was a two-way street; it required a spirit of reciprocity;

the mentor listened as much as talked and understood the problems of the beginning teacher and perceived solutions to these problems (Driscoll et al., 1985).

Recognizing the importance of the mentoring relationship, careful consideration of the method of selection of mentors was necessary in designing a mentor system. Techniques ranged from systematic and technical to qualitative and interactive. In the California mentor system (cf. Wagner, 1984) where the ratio of inductees to mentor was greater as compared to the Utah mentor system where the ratio of mentor to inductee was a one-to-one, it was found that the latter was a more productive arrangement for both teachers. Nonetheless, the technique or method was not as much an issue as the competence and willingness of a teacher to serve as a mentor (Driscoll et al., 1985). This latter point held implications for the training of mentor teachers and the provisions for a support system for the mentors themselves. These could be conducted in the format of workshops, graduate courses (as described in the Franklin County/OSU Induction Project) or meetings where mentors have the freedom to express their successes and frustrations concerning the mentoring processes. However, the mentoring must be an integral process (Driscoll et al., 1985).

In order to help mentor teachers understand and adapt to their new roles and responsibilities, Sparks (1983) identified the following structured approaches for assisting mentor teachers. First, mentor teachers needed to develop an awareness of the problems of the

beginning teachers. Second, planning should be done by a committee who focused on the results of need assessment data as topics of concern for the beginning as well as the mentor teachers. These meetings should be designed where mentor and inductee come together on some occasions. Further, in implementation of the mentoring system, different goals of mentors and inductees should be kept in mind and evaluation should be conducted on several levels. It was necessary to monitor the needs of the beginning teachers as well as their mentor teachers to determine where the mentor system needed a boost from the designers of the induction program. Finally, reassessment of the program at the end of the year to determine the success of the program and continuation with new directions was necessary. In summary, a mentor system that was well designed and articulated could potentially benefit the district, the beginning teacher, the mentor teacher, and the ultimate benefactor, the students.

Benefits of Mentors as Colleagues. The benefits to be gained by teachers serving as colleagues have been documented by Warren-Little (1985) in a study conducted at the Far West Laboratory for Educational Research and Development. The results of this study yielded a rich description of the possibilities and limits of collegiality among teachers. This work revealed a rare but potent phenomenon in teaching: close, rigorous work with colleagues results in enduring work among teachers on basic issues of teaching and learning (Warren-Little, 1985). Teachers who engaged in collegial arrangements

stood out among their counterparts in schools where teachers did not engage in collegial arrangements. These teachers could be seen watching other teachers teach and could be seen after school with materials spread on tables and discussion in full swing. They were found making the study of teaching and the work of teaching public, and they learned from and with one another (Warren-Little, 1985).

Warren-Little (1985) contended that collegiality benefited the students, veteran teachers, beginning teachers, schools, and the teaching profession and stated that for teachers to work often and fruitfully as colleagues required action on all accounts:

the value that is placed on shared work must be said and shown. The opportunity for shared work and shared study must be prominent in the schedule for the day, the week, and the year. The purpose for working together must be compelling and the task sufficiently challenging. The material resources and human assistance must be adequate. And the accomplishments of individuals and groups must be recognized and celebrated (p. 56).

Other studies conducted on mentoring relationships have lead to six major principles behind the success of advisor-teacher interactions (Warren-Little, 1985). Three of these were technical, and three were social. Warren-Little (1985) described those that dealt with the technical aspects: featuring talk about teaching the use of a common, shared language which described and refined teaching; a focus on one or two key issues; and use of "hard" evidence in the form of detailed records of observed interactions. The remaining three principles related to social aspects of the mentoring relationship: interaction during conferences; predictability related to trusting each other's

intentions for the conference (i.e., advisors were clear about the observation objectives and teachers were clear about the instructional aims and methods); and reciprocity, where teachers and advisors acknowledged each other as knowledgeable about each other's skills and gave each other full attention. According to Warren-Little (1985), these principles of advising were needed in the collaborative efforts that have just been described. They also provided substantial evidence for an intervention model of classroom management to be used as a mid-year intervention model to assist beginning teachers in becoming effective managers in their classrooms.

Classroom Management

Classroom management has created much concern over the past decade as it related to educational practices of classroom teachers (Evertson, et al., 1983). Discipline and classroom management have almost perennially out-ranked other matters in the public's concerns about its schools (Gallup, 1986). Classroom management was one of the most frequently cited problems of beginning teachers (Veenman, 1984), and beginning teacher programs could provide understandings that would allow them to make effective judgments about classroom management and instruction (Carter & Richardson-Koehler, 1986). School administrators frequently requested classroom management as a topic for inservice workshops, and teacher educators and researchers have developed an interest in the study of classroom management (Evertson et al., 1983).

Assumptions and Related Research. Brophy (1982) identified two assumptions that provided an entry point for describing the view of classroom management intervention taken in this study. The first was that the classroom teacher was both an authority figure and an instructional leader in the classroom setting (cf. Edwards & Furlong, 1978; Metz, 1978). This was an assumption that frequently matched the perspectives of school administrators, teachers, and parents, and also students (Allen, 1986). A second assumption was that effective classroom management and effective instruction go hand-in-hand, and vice versa. That was, management and instruction were continuously intertwined and interdependent in the interactions that took place in classrooms. Recently, evidence has been obtained that this assumption was well grounded. Because successful classroom managers maximized the time that their students spent engaged in academic tasks, they also maximized students' opportunities to learn academic content. These opportunities showed up in superior performance on achievement tests (Brophy, 1979; Rosenshine & Berliner, 1978). Indirect causal links have also recently been established between effective classroom management and student achievement (Evertson et al., 1985).

Various studies of teacher effectiveness have resulted in identification of teacher variables and classroom processes variables associated with student achievement outcomes (Brophy, 1979; Brophy & Evertson, 1976; Good, 1983; Stallings & Kaskowitz, 1974). Although most of these studies were conducted at the elementary classroom level,

some studies have also addressed the questions at the secondary level (Evertson, et al., 1980; Stallings, 1980). In these studies, the role of effective classroom management and organization and student time-on-task (Denham & Lieberman, 1980) emerged as important variables.

Broadly speaking, classroom management referred to the provisions and procedures made to establish and maintain an environment in which instruction and learning could take place. Studies of classroom management provided evidence that from the first day of school, advanced preparation, planning, and systematic approaches to instruction influenced effective management (Evertson & Emmer, 1982; Emmer, Evertson & Anderson, 1980). Specific recommendations for teachers from these studies included: (a) planning rules and procedures for general classroom organization; (b) presenting rules and procedures to students along with expectations for appropriate behavior; (c) maintaining a systematic approach through monitoring student academic work and behavior; and (d) providing feedback to students about performance. Assumptions have been made that implementation of these recommendations would result in improved task engagement, fewer instances of inappropriate behavior, smoother instructional activities, and student achievement gains.

Classroom Management Training. Studies investigating the effects of training teachers in principles of effective management were rare (Evertson, et al., 1983; Emmer, et al., 1981). However, these studies supported the implementation of a management training program as a

useful inservice procedure. Teachers trained to implement the recommendations outlined were found to have improved student task engagement, more instances of appropriate student behaviors, and smoother instructional activities. In these studies, the relationship between management training and student achievement gains were not directly addressed.

Evertson et al., (1985) reported a series of validation training studies conducted in several school districts in Arkansas. The purpose of the validation studies was to assess the exportability of procedures and findings from earlier studies conducted by Evertson and her colleagues in tightly controlled research settings in Texas. In general, findings supported the training procedures as a successful and cost-efficient form of school-based staff development and demonstrated that effects of the training could be replicated in local school settings.

In one validation study, of 35 five-point ratings used to assess teachers management practices following classroom observations, 22 (61%) were significant in favor of the trained teachers. Means for the trained group exceeded the control group means on all but one of the 35 variables. The strongest effects were for describing lesson objectives and lesson content clearly, using efficient and appropriate classroom procedures and routines, being consistent in managing student behavior, and keeping a task-oriented classroom focus. Additionally, examination of data on standardized and criterion-referenced achievement tests in

math and English classes revealed significantly higher group means for trained teachers. These results provided support for the indirect effects of classroom management training on student achievement outcomes (Evertson et al., 1985).

Operational definitions for the program of classroom management training in Evertson's studies were contained within the content of the training workshops. An outline of workshop content for trained teachers has been provided in Table 1. Essentially, classroom management was operationally defined in terms of three components: planning, presenting rules, procedures and expectations, and maintaining the system throughout the school year. Typically, this content was presented to teachers in a two-day workshop format and classroom observations were conducted following the workshops to assess effects on teachers' classroom practices.

Table 1

Outline of Workshop Content for Experimental Group

I. Planning

- A. Use of space (readying the classroom)
- B. Rules for general behavior
- C. Rules and procedures for specific areas
 - 1. Student use of classroom space and facilities
 - 2. Student use of out-of-class areas
 - 3. Student participation during whole class activities/seatwork
 - 4. Student participation in daily routines
 - 5. Student participation during small group activities
- D. Consequences/incentives for appropriate/inappropriate behavior
- E. Activities for the first day of school

II. Presenting rules, procedures and expectations

- A. Teaching rules and procedures
 - 1. Explanation
 - 2. Rehearsal
 - 3. Feedback
 - 4. Reteaching
- B. Teaching academic content
- C. Communicating concepts and directions clearly

III. Maintaining the system

- A. Monitoring for behavior and academic compliance
- B. Acknowledging appropriate behavior
- C. Stopping inappropriate behavior
- D. Maintaining consistent use of consequences/incentives
- E. Adjusting instruction for individual students/groups
- F. Keeping students accountable for work
- G. Coping with special problems

Measurement of Teaching

Recently, considerable attention has been directed toward issues related to measurement of teaching in terms of the reliability and validity of observational devices. Serious concerns have been lodged about the generalizability of effects of interventions across settings. Historically, measurement issues in psychology and education have been addressed through classical test theory, with its emphasis on estimating various types of reliability. In classical test theory, an observed measurement was decomposed into a "true" score and a single source of random "error." A single application of the classical test theory model, however, could not clearly differentiate among multiple sources of error.

Generalizability (G) theory (Brennan, 1983; Cronbach, Gleser, Nanda & Rajaratnam, 1972; Cronbach, Rajaratnam & Gleser, 1963; Shavelson & Webb, 1981) has been defined as a measurement theory that allowed for the existence of multiple sources of variation in measurements and uses analysis of variance (ANOVA) to estimate variance components for different effects. Such multiple sources of variation in measurement of classroom processes might have included persons, observers (raters), occasions, and settings. Consideration of all sources of variation allowed the researcher to obtain a generalizability study which showed the relative influence of the different effects on a measure of teacher

behavior. The sources of variations could be used to determine the number of levels of an effect (e.g., number of observations) needed to obtain maximum generalizability.

A particular behavior measurement has been assumed to be sample from a universe of admissible observations. The observations in this universe were described by the conditions under which they were made, and the set of all conditions of a particular type has been called a facet, the source of error variation (e.g., items, raters, occasions).

In generalizability theory, a distinction was made between G studies, or generalizability studies, which estimate the variance components associated with various facets, and D studies, or decision studies, which emphasized the estimation, use, and interpretation of variance components for making substantive decisions.

In conducting a G study, certain facets were investigated and the variance components for these facets were estimated. The facets investigated in the G study define a universe of admissible observations. The D study interpreted the observations as measurements. In this interpretation, inferences were drawn to the universe of observations defining an attribute, and this universe was called the universe of generalization.

The universe score was the expected value of the observed score over the universe of generalization. The universe score corresponded

to the true score in classical test theory and was not directly observable. In sum, G theory measurement was decomposed into a component for the universe score and one or more error components.

For each object of measurement, the observed score was used as an estimate of the universe score. The dependability of generalizations from observed scores to universe scores was described by a generalizability coefficient. The generalizability coefficient has been defined as the ratio of the universe score variance to the expected observed score variance for the D study design (Cronbach et al., 1972).

The usual steps in conducting G and D studies were as follows: estimate random effects G study variance components; specify the object of measurement for the D study; specify the universe of generalization by identifying which facets are random and which are fixed; identify the number of conditions to be sampled from each facet in the D study; and estimate the universe score variance, error variances, and generalizability coefficients for the D study (Brennan & Kane, 1985).

Summary and Conceptual Framework

Development of the rationale for the classroom management and intervention used in this study has been depicted in Figure 3. This figure represented a concise summary and conceptual framework for the organization of literature and studies that have been reviewed in this chapter. Entering this framework at the upper left in Figure 3, the concerns of beginning teachers have been indicated, including:

concerns about self, concerns about the teaching situation, and concerns about pupils (Fuller, 1969). Extensive documentation in the literature has suggested that these concerns are highly typical of beginning teachers.

Tracing the progression of the framework in Figure 3, (see arrows) suggests that structures currently exist for addressing the concerns of beginning teachers. These traditionally have included preservice and inservice programs and staff development for teachers. More recently, a phase of teaching development following the teacher preparation program through the initial years of teaching has been referred to as an induction phase. It is at this point that questions have been raised about appropriate intervention strategies that can bring about improvements in teaching and increased resolution of the concerns of beginning teachers. Selected strategies identified as promising, based on examination of the literature, include establishment of formal induction programs that feature training in classroom management and facilitation of opportunities for development of mentoring relationships.

A final component of the framework presented in Figure 3 has focused on procedures adopted for measuring teaching. Recent methodological advances in the measurement of teaching behavior have produced systematic approaches for isolating the effects of occasions, raters, items and teachers. Referred to as Generalizability Theory, statistical techniques have been adopted for tracing the influences of

these conditions on outcome of the selected intervention strategies.

The utilization of these methodological techniques has increased potential for generalizing to other similar conditions in other schools and classroom settings.

Figure 3. THE RATIONALE FOR CLASSROOM MANAGEMENT/ MENTORING INTERVENTION: CONCEPTUAL FRAMEWORK

Chapter III

Methodology

Presented in this chapter are the research design, subject selection procedures, experimental treatment, outcome measures, instrumentation, observation procedures, data collection procedures, and data analysis procedures.

Research Design

The primary purpose of this study was to examine the effects of a program of classroom management intervention training on the classroom management behaviors of inductee teachers. Additionally, this study explored the effects of relationships between paired mentor and inductee teachers on the inductees' classroom management behaviors. The research design selected to fulfill these purposes was the posttest-only control group design (Campbell & Stanley, 1966). Posttest-only control group design was illustrated by the use of the following schematic notation:

R	X	O
R		O

R represented random assignment of subjects to treatment conditions; X represented the experimental treatment and O represented the observed variable (posttest). In the diagram, the experimental group received the experimental treatment and the control group did not. Both groups were then observed following the treatment (e.g., the presence or

absence of the treatment), and comparisons were drawn between observations of the two groups in order to infer the effects of the treatment.

An extension of the Campbell and Stanley posttest-only control group design was used in this study. This design was illustrated as follows:

R	X_{MI}	O_I
R	X_M	O_I
R	X_O	O_I

In this design, three comparison groups were represented. The first two groups received an experimental treatment (X_{MI} and X_M), which will be described in detail in the next section of this chapter, and the third group (X_O) did not receive an experimental treatment. This third group was referred to as the control group. The subscript designations "M" and "I" referred to mentor teachers and inductee teachers who served as subjects in this study. Both mentor and inductee teachers assigned to the first treatment group received the experimental treatment. For mentor and inductee teachers assigned to the second treatment condition, the mentor teachers received the experimental treatment but the inductee teachers did not. For the pairs of teachers assigned to the third group, neither mentors nor inductees received the experimental treatment. The observations that followed participation in each of the three treatment conditions (O_I) focused on the inductee teacher only (see Figure 4).

Campbell and Stanley, (1966) indicated that there were intervening variables (sources of invalidity) that could effect internal validity.

Figure 4. Mentors' and inductees' access to information about principles of effective classroom management by treatment groups.

These sources of internal invalidity included: history, maturation, testing, instrumentation, regression, selection, mortality, interaction of selection, and maturation. The internal validity referred to the minimum of interference with which any experiment was uninterpretable; in other words, had the experimental treatment made a difference in the specific experimental instance. The internal source of invalidity in the posttest-only control group design were all controlled due to the randomization; for example, the random selection of subjects and the random assignment of treatment to subjects. A possible intervening variable that might have effected the dependent variable outcome measures were the number of years of teaching experience. The inductee teachers in this study were defined as beginning teachers according to the definition established by the Induction Project, (see definition of terms); therefore, all inductee teachers observed differed in the number of total years of teaching experience. However, all inductee teachers were randomly assigned to treatment groups and again randomization should have controlled any differences between groups. The external sources of invalidity will be discussed in the section of this chapter that refers to subject selection.

Subject Selection Procedures

All subjects selected for this study were involved in the Franklin County/OSU Induction Project, Phase I, and constituted the target population for this study. In an attempt to represent this population, an accessible population of subjects were selected from nine school

buildings located in the Groveport Madison school district. Groveport Madison was one of five local school districts involved in the Franklin County/OSU Induction Project, Phase I. Phase I of the Induction Project extended from August, 1985 to June, 1986, is ongoing, and will continue for approximately two years. Participation by the district in the Induction Project and in this research study was voluntary. Participation in the Induction Project as a mentor and inductee teacher was the first criterion for the subject selection. This particular district was selected for several reasons: 1) the school district was eager to cooperate and wanted the information to improve their instructional program; 2) the accessible population for this study was large enough for the sample size needed to conduct the research; and 3) the superintendent was enthusiastic and willing to provide support for the study.

The inductee teachers participating in the project numbered 35. Mentor teachers participating in the project also numbered 35 (i.e., there were 35 mentor/inductee pairs). As described above, the research design in this study examined outcome measures for subjects according to three group designations. Each group included mentor and inductee teacher pairs. The mentor teachers were carefully selected by their building principal so that pairs were matched by grade level or subject level. These paired assignments were made previously as part of the arrangements within the Induction Project. Pairs were selected intact from random assignment to one of the three groups. Prior to group assignment, pairs were randomly stratified by grade level (elementary, middle, and high school). Pairs were then randomly assigned to the

three levels of the treatment conditions. An outline showing approximate numbers of subjects (i.e., pairs of subjects) per group has been provided in Table 2.

Table 2
Number of Mentor and Inductee Teachers by Treatment Group

Treatment		Subject	Mentor	Inductee
Group		Pairs	Teachers	Teachers
Group I				
X_{MI}	O_I	11	11	11
Group II				
X_M	O_I	11	11	0
Group III				
X_o	O_I	12	0	0

N=35

Usable data were collected for 30 mentor/inductee pairs from nine school buildings in the Groveport Madison schools. The original frame was comprised of all 34 teacher pairs in the Groveport Madison school district; however, data from five subjects were dropped from the study: one due to illness, and four that could not be utilized in the final analyses because the data analyses procedure (Generalizability

Theory) required a balanced design (equal group sizes). Originally, random assignment was done by teaching level; four subjects were randomly dropped (one from Group I, elementary; one from Group II, elementary; one from Group III, middle; one from Group III, high school) to get 10 subjects per group. The random elimination of these four subjects was done to analyze the effects of the training, which was the primary research question in the study. The original frame was utilized to analyze the effects of mentoring, which was the secondary question in the study.

Table 3 contained the demographic characteristics pertaining to the original frame of the subjects. The sample of elementary and secondary teachers in this study numbered 68. The inductee teachers participating in the project numbered 34; mentor teachers participating also numbered 34 (i.e., there were 34 mentor/inductee pairs). There were 8 male and 26 female inductees and 6 male and 28 female mentor teachers. The average age of the inductee teachers was 33 and the average age of the mentor teacher was 38. All were caucasian, with the exception of one black subject. The teaching experience of the inductee teachers ranged from 0 to 17 years with an average of 6. For mentor teachers the range was 3 to 29 years with an average of 12. There were 6 inductees who held a Master's degree and 28 who held a Bachelor's degree. There were 11 mentors who held a Master's degree and 23 who held a Bachelor's degree. Subjects included 34 (17 mentor/inductee pairs) teachers at the elementary grade level and 34 (17 mentor/inductee pairs) at the secondary level.

Table 3
Demographic Information on Mentors and Inductees
by Treatment Groups (Original)

	Treatment Group					
	Grp. I ^a		Grp. II ^b		Grp. III ^c	
	I	M	I	M	I	M
Age (yr.)	33.7	41.1 ^d	32.8	34.1 ^d	31.4	38.0 ^d
Sex: Female	8	10	8	8	10	10
Male	3	1	2	2	3	3
Race: White	10	11	10	10	13	13
Black	1	0	0	0	0	0
Degree: Bachelor's	9	9	9	7	10	7
Master's	2	5	1	2	3	4
Experience (Yr.)	6.3	13.8 ^d	6.2	9.1 ^d	5.1	12.9 ^d
Teaching Level:						
Elem.	7	7	5	5	5	5
Middle	1	1	2	2	3	3
High School	3	3	3	3	5	5

Note. I = Inductee; M = Mentor

^a_n=11

^b_n=10

^c_n=13

^d data missing from one mentor

Initial discussions were held with the Planning Committee of the Franklin County/OSU Induction Project pertaining to the possibilities for the design of an experimental study that could focus on both classroom management and ways to establish continuing peer support among the subject pairs of inductee and mentor teachers (Appendix A). After these initial discussions, the Superintendent of the Groveport Madison School District contacted teachers and district personnel to insure his support for this study in terms of human and financial resources (Appendix B). These resources included release time for mentoring activities and for participating in the classroom management workshops as well as financial contributions for workshop materials. Following this, the researcher and one building level administrator contacted each of the nine building principals to operationalize the procedures of the study (Appendix B). Following these initial clearances, a meeting was scheduled at each individual building which included the principal and the paired mentor/inductee teachers. The first criterion for subject selection was participation in the Induction Project. The second criterion was willingness to work as paired mentor/inductee teachers throughout the school year. The purpose of the meeting was to explain the study, the activities involved in the study, and the expectations required of the paired mentor/inductee teachers. A follow-up letter regarding the Classroom Management Workshop for the selected mentor/inductee pairs was then sent by the researcher (Appendix B).

This experimenter's intent was to generalize findings to another group of subjects and another set of conditions that were not included in this study. According to Bacht and Glass (1968), there were a number of threats to external validity which caused the effects of a treatment to be specific to some limited population of people or set of conditions. These threats to external validity appeared to fall into two broad categories: (a) those dealing with generalizations to populations of persons (What population of subjects could be expected to behave in the same way as did the sample experimental subjects?), and (2) those dealing with the "environment" of the experiment (Under what conditions, i.e., settings, treatments, experimenters, dependent variables, etc. could the same results be expected?). These two broad categories corresponded to two types of external validity: population validity and ecological validity. Population validity referred to: (a) experimentally accessible population vs. target population and (b) interaction of personological variables and treatment effects. Ecological validity referred to: (a) describing the independent variable explicitly, (b) multiple-treatment interference, (c) Hawthorne effect, (d) novelty and disruption effects, (e) experimenter effect, (f) pretest sensitization, (g) posttest sensitization, (h) interaction of history and treatment effects, (i) measurement of the dependent variable, (j) interaction of time of measurement and treatment effects.

After examining the population validity threats (as described above), the experimenter determined that there were no threats to population validity and contended that this study could only be generalizable from the population of subjects that were available to

the experimenter to the total population of subjects in whom we were interested. In other words, the results of this experiment might apply only to subjects in similar settings. In further examination of the ecological validity, the experimenter determined the following threats to be inclusive: the Hawthorne effect, novelty and disruption effects, interaction of history and treatment effects, and interaction of time of measurement and treatment effects.

In addition to examining the external threats of validity (Bracht & Glass, 1968), a generalizability study was conducted in order to generalize to other teachers, raters, occasions, and items used in this study, thus obtaining a generalizability coefficient to determine the dependability of these facets (Brennan, 1983).

Experimental Treatment: Classroom Management Intervention

The independent variable in this study, the experimental treatment, consisted of a program of classroom management intervention training. The training was delivered in a workshop format and was conducted at a mid-point in the school year. In order to authenticate the effects of the treatment (classroom management intervention), mentor and inductee teachers were asked to complete a set of conference report forms. Thus, these conference report forms became a part of the research questions and were analyzed to determine if classroom

management intervention training was associated with the frequency of related classroom management problems discussed in mentoring conferences. As described above, mentor teachers assigned to the two experimental groups participated in the training workshop. The difference in treatment conditions for these first two groups was the presence or absence of the inductee teachers in the training workshops. In this way the research design permitted description of both the effects of intervention training and different levels of exposure to the training. In other words, for one group the effects of training the mentor/inductee pair were observed and for the second group, the effects of training the mentors only were observed.

A classroom management training model provided the basis for developing the training workshop. The model was the product of a series of classroom management training studies conducted by Evertson and her colleagues (Emmer, et al., 1980; Evertson, et al., 1980; Evertson et al., 1983; Evertson et al., 1985). These studies, however, have focused primarily on classroom management training at or before the beginning of the school year. The training model was designed for prevention of classroom management problems rather than remediation of problems after they occur. In contrast there was a need in this study to implement the training at mid-year. Therefore, adaptations in the management training model were necessary so that it could serve as an intervention model rather than as a prevention model. Both Evertson's model and the intervention model, as adapted for use in this study, have been presented as follows.

Evertson's Classroom Management Training Model. The central features of Evertson's training model have been presented in Table 1 (see Chapter 2). As indicated, the model contained three dimensions--planning, presenting and maintaining. These three dimensions served as a core around which workshop activities were planned. They also provided the operational definition of classroom management as used in this study.

Classroom Management Intervention Model. The intervention model included three central dimensions: planning, presenting and maintaining which have been consistent with Evertson's model (see Table 4). However, the concepts included in the workshop activities within each of these dimensions were adapted. Specifically, the focus on planning for the first day of school was deleted. Instead, planning was treated as a management process that occurred at mid-year as well as at the beginning of the year. For instance, the training workshops were scheduled in the week prior to spring vacation and workshop activities centered around planning for the students' return to school following the break. Other adaptations included deletion of attention to explanation, rehearsal, and feedback (see Table 4) in the section on presenting rules and procedures. In the third dimension, the anticipation of special problems (see Table 4) was also not included in the adapted intervention model. Overall, the models were similar. The differences between the training at the beginning of the school year and intervention training were embedded in the time allotments for

Table 4
The Classroom Management Intervention Training Model

Effective classroom management requires planning:

1. Readyng the classroom (planning use of space).
2. Developing rules for general behavior
3. Developing rules and procedures for specific areas:
 - a. Student use of classroom space and facilities
 - b. Student use of out-of-class areas
 - c. Student participation during whole class activities
 - d. Student participation in daily routines
 - e. Student participation during small group activities
4. Deciding on incentives/consequences for appropriate/inappropriate behavior

Effective classroom management requires presenting (implementing):

1. Teaching the rules and procedures
2. Teaching academic content
3. Communicating directions and concepts clearly

Effective classroom management requires maintaining the management system:

1. Monitoring for behavior and academic compliance
2. Acknowledging appropriate behavior
3. Stopping inappropriate behavior
4. Using consequences/incentives consistently
5. Adjusting instruction for individual students/groups
6. Keeping students accountable for work

the various concepts and activities. The classroom management instructors' manual, content outline, and selected training materials for the intervention workshop were provided to the researcher during the training sessions with Dr. Evertson.

Outcome Measures: Classroom Management Behaviors

The dependent variable in this study e.g., the outcome measures, were designed to assess the effects of the classroom management behaviors of inductee teachers. There were three instruments used in observing the classroom management behaviors of inductee teachers. Three instruments were developed and used in earlier studies of the effects of classroom management training at the beginning of the school year (Emmer et al., 1980; Evertson et al., 1980; Evertson et al., 1983; Evertson et al., 1985). The instruments were revised for use in this study to measure only the classroom management behaviors of inductee teachers at the mid-year intervention period. The variables used to assess these behaviors have been listed in Table 5. In addition to these three instruments, a conference report form was designed to assess the frequency of classroom management problems discussed in mentoring conferences. This instrument was developed and used in the Induction Project (Zimpher, 1985) and has been noted in Appendix A. Following the description of observer training procedures, instrumentation and issues of validity and reliability will be discussed in detail.

Table 5
Classroom Management Intervention Variables

Classroom Rating and Summary Rating Scales:

1. Describes objectives clearly
2. Materials are ready
3. Clear directions for assignments
4. Assignments for different students
5. Provides or seeks rationales/analysis
6. Appropriate pacing of lesson
7. Clear explanations
8. Monitors student understanding
9. Clear work standards
10. Consistently enforces work standards
11. Appropriate general procedures
12. Efficient small group procedures
13. Suitable routines for assigning, checking, and collecting work
14. Attention spans considered in lessons
15. Degree of student success
16. Activities related to student backgrounds and interests
17. Rewards appropriate performance
18. Consistency in managing behavior
19. Effective monitoring
20. Efficient transitions between activities
21. Disruptive behavior
22. Inappropriate pupil behavior

Student Engagement Ratings:

23. Definitely on-task/Probably on-task/Off-task

n=23

Observer Training Procedure

The observers for this study were members of the Franklin County/OSU Induction Project Planning Committee. These members included three of the school district's administrative staff and five experienced teachers who volunteered to be observers in the study.

Each observer received three graduate credit hours for their participation in the training workshops and the data collection activities. Observer training sessions were conducted during a series of four one-half day meetings held on March 17 at the Franklin County Board of Education office, March 24 (A.M.) on The Ohio State University campus, March 24 (P.M.) at Glendening Elementary School, and April 28, 1986 on The Ohio State University campus. The three sessions and site locations totaled two full days of observer training.

At the first observer training session, each observer was given a training manual containing descriptions of the four instruments. Materials used in the training included both written scripts of classroom situations and videotape recordings of teachers and students in typical classroom situations. One of these recordings was available in the school district and a second one was recorded by the researcher in a classroom setting prior to the training workshop. At the conclusion of each half day training session either a videotape was viewed or an on-site classroom observation was conducted. The purpose of these simulations and on-site observations was to provide observers with opportunities to practice using the observation instruments. At the end of the second session a test was administered to determine the observers' knowledge of the classroom management variables.

The time observers invested in these training skills was beneficial to both the Franklin County school districts and The Ohio State University in the 1986-87 Implementation (Phase II) of the Induction

Project. The training of the observers was conducted by the experimenter and the materials used for the training were developed by Evertson et al., (1983).

Instrumentation

There were four instruments used in this study: classroom rating scales, narrative records, student engagement ratings, and conference report forms. The purpose of each instrument, the number of variables, categories of variables, number of observations and the reliability and validity will be discussed in what follows.

Classroom rating scales. The classroom rating scales were designed to assess the effects of the classroom management intervention training on the classroom management behaviors of the inductee teachers. The classroom rating scales consisted of a series of 22 Likert-scale items clustered under five domains: instructional management, rules and procedures, meeting student concerns, managing pupil behavior, and student misbehavior. These domains were composed of items related to the three phases of the classroom management model, including: (1) planning rules and procedures ahead of time; (2) presenting rules and procedures to students; and (3) maintaining a systematic approach through monitoring student academic work and behavior. Four observations were recorded for each teacher under random occasions. The first observation was used as a "practice" rating session and was not a part of the analysis. After each classroom observation, a set of

classroom rating scales were used by the observer. Each item was observed on a five point scale, ranging from five (the highest) to one (see Appendix C).

Narrative records. The purpose of these records was to gather qualitative data about classroom activities and behaviors of both teachers and students in order to help the observer complete the classroom rating scale described above. During each observation observers recorded notes on narrative record forms. After the observation, the observer used the narrative notes to complete the classroom rating scales. Later, the observer dictated onto audiotape a complete description of the context and activities for each classroom observation. These narrative records were not used in the analysis of this study; they were used as enrichment data and to verify any discrepancies in completing the classroom ratings scales. Observers were asked to preserve the correct sequence of activities, noting teacher and student behaviors and recording as much classroom dialogue as possible. Training procedures emphasized the dimensions relevant to classroom management skills while also noting the overall organization of the observation period. Observers also collected time information which allowed an estimate of the length of activities and transitions. The data for these instruments were collected simultaneously, thus allowing four narrative recordings per teacher.

Student engagement ratings. The purpose of this instrument was to record the students' behavior during the classroom observation. At some point during the first 10 minutes of the observation period and every 10 minutes thereafter, observers then placed each student in the room in one of the following three categories of engagement:

1. Definitely on-task: Student was obviously engaged in the task at hand as defined by the teacher at the time.
2. Probably on-task: Student appeared to be engaged, but there was some question as to whether attention was wandering or not.
3. Off-task: Student was not engaged in what she/he was supposed to be doing. Student may be talking to a neighbor, doing other work, etc.

A total of three student observations were recorded per teacher during their class period. A score for each category was calculated by dividing the number of students in each category by the total number of students in attendance yielding a percentage of students classified in one of the above categories. The student engagement ratings were recorded on the narrative forms, enabling one to check the activities that were taking place at that particular time. The form for this observation has been included as a part of the narrative record forms as seen in Appendix C.

Instrument Validity and Reliability. The validity and reliability for the classroom rating instruments, narrative notes and student engagement ratings described have already been established by Evertson et al., (1983); Emmer et al., (1980); Evertson & Emmer, (1982); and Evertson, et al., (1985). In addition, a Pearson product-moment

correlation was used to obtain the interrater reliability of the paired comparisons upon three different occasions. The first paired comparison was a videotape of teacher A; the second was a live presentation of Teacher B, and the third was a videotape of teacher C. The interrater reliability for the composite of these paired comparisons was averaged across the three occasions and was reported to be .80.

Conference Report Forms. The purpose of this instrument was to assess the effects of the classroom management intervention training program on the mentoring relationship of paired mentor and inductee teachers. In other words, to determine whether teachers who were paired in experimental groups and received a program on classroom management training discussed those aspects of the training session to a greater degree than those paired mentor and inductee teachers who never received a program on classroom management training. Therefore, both groups (experimental and control) were asked to complete a set of conference report forms. These forms were distributed at a meeting held prior to the Classroom Management Workshop (treatment) where paired mentor/inductees (both experimental and control groups) were asked to complete five conference report forms within a ten-week span of time. One form, to be completed every two weeks, was then collected for a total of five forms per paired group of teachers as reviewed in Appendix C.

Data Collection Procedures

Procedures implemented in this study were scheduled after this researcher received training in classroom management intervention training and observer training. There were two full days of training sessions conducted by Dr. Carolyn Evertson, Professor at Vanderbilt University. The classroom management model was developed by Dr. Evertson and the researcher was trained at Vanderbilt University in the use of the model and the instruments for data collection. This schedule of events, with dates indicating the timeline that was planned for this study, has been represented in Table 6.

Narrative record forms, classroom ratings scales, and student engagement ratings were used for each observation of each teacher. In total, 136 classroom observations of inductee teachers' classroom management behaviors, each approximately 40 minutes in length, were conducted. Conference forms were collected by the researcher every two weeks. A total of 170 conferences were held during the study.

Table 6

TIMELINE FOR SCHEDULED EVENTSWORKSHOP TRAINING

March 11-12 (2 days)

May 27 (1 day)

OBSERVER TRAINING

March 17 (1/2 day p.m.)

March 24 (1/2 day p.m.)

March 24 (1/2 day a.m.)

April 28 (1/2 day p.m.)

DATA COLLECTION

March 17 - May 30

Data Analysis Procedures

Analysis for the study addressed the primary research topics of intervention effectiveness as reflected in group differences on classroom rating scales and student engagement ratings and on discussion of classroom management problems. A suitable analysis technique was performed on each of the data sets corresponding to the different data collection methods used: (a) Classroom Ratings, (b) Student Engagement Ratings and (c) Conference Report Forms. Each analysis will be discussed separately. (Note - Abbreviations used in the discussion: g, G=treatment grouping; t, T=teacher/inductee; o, O=observation occasion; and i, I=item. Uppercase letter denotes facets for which scores were averaged over D study conditions.)

Classroom Ratings. The Classroom Rating Scales consisted of a series of Likert-scale items clustered under five domains: (a) instructional management, (b) rules and procedures, (c) meeting student concerns, (d) managing pupil behavior and (e) student misbehavior. The experimental design was partial hierarchical, with two nested facets (occasions, teachers) within treatment groups and with one crossed (repeated) facet (items). Notationally, the design was (o:t:g) x i, i.e., occasions nested within teachers nested within groups, crossed with items.

For analysis purposes, the design was balanced by randomly dropping teachers by group and teaching level. One level 1 (primary) teacher was dropped from Group I, while three teachers from Group III were

dropped, one from each level of teaching. Missing values were replaced by the average rating across occasions for the particular item, yielding one observation per cell. The first rating occasion was considered a "practice" rating session and was not part of the analysis. The resulting design was fully balanced, consisting of 10 inductees per group being rated on three occasions on each item in the five domains. Descriptive statistics were generated by group and item for each domain.

To examine group effects, an analysis of variance (ANOVA) was performed with item as a repeated factor and with rating score as the dependent variable. A separate analysis was conducted for each of the five domains. Results of the F- tests allowed conclusions as to the effectiveness of the intervention.

The dependability of the teacher ratings on each domain was examined using generalizability theory. Following the recommendation of Brennan (1983) for analysis of distinctly different subgroups, each treatment group was analyzed separately. For each group, a G study on the random effects model, $(o:t) \times i$, was performed in order to obtain estimates of variances components for the different effects. A D study was performed next with teacher as the object of measurement and with teachers, occasions and items specified as random. Notationally, the D study model was $(O: t) \times I$, with uppercase letters denoting facets for which ratings were averaged across conditions. Estimated variance components from the D study allowed calculations of universe score

variance, error variance for relative decisions, and a generalizeability coefficient. Again, results were obtained on each of the five domains.

Computer analysis was conducted using the GENOVA (generalized analysis of variance) fortran program developed by Brennan (1983). The program allowed ANOVA results as well as G and D study results and was used for all analyses that follow in this discussion.

Student Engagement Ratings. The effectiveness of the training intervention as reflected in classroom engagement ratings was also examined through analysis of variance. The dependent variable was student engagement percentage averaged across the three successive (10-minute interval) observations of the three observation occasions. Three types of student task behavior--definitely on-task, probably on-task, and off-task--served as the basis for the engagement percentages. The design was completely hierarchical with occasions nested within teachers nested within groups (o:t:g). As stated above, the design was completely balanced (10 teachers per group, one observation per cell). Descriptive statistics were generated for the behavior categories by group.

An ANOVA was performed on the definite on-task behavior and on the off-task behavior to test for group differences. Results of the F-test were used to indicate group differences.

Generalizability theory again served as the basis for dependability measures for the engagement percentages. As above, each treatment

group was analyzed separately. For each task behavior category and group, a G study analysis on the random effects model (o:t) was followed by a D study on the O: t model with teacher as the object of measurement and with teachers and occasions specified as random. Estimates of universe score variance and relative error variance were obtained as well as the generalizability coefficient.

Conference Report Forms. The conference report forms yielded the frequencies of discussion of problems dealing with the trauma of beginning teachers. These problems were classified as being definitely related to classroom management, probably related to classroom management, or unrelated to classroom management problems. The frequencies of problem types were cross-classified with treatment group classification in a 3 x 3 contingency table. For analysis purposes, the two "related" categories were collapsed. A Chi-square analysis was performed on the resulting 3 x 2 table to examine for association between treatment group and problem type.

Summary

This chapter discussed the utilization of a posttest-only control group design to fulfill the two major purposes of the study: (a) to test the program effectiveness of classroom management intervention training designed to help the inductee teachers improve their classroom management practices; and (b) to determine if mentoring relationships were effective in helping inductee teachers cope with classroom

management problems. The subjects selected for this study were involved in the Franklin County/OSU Induction Project, Phase I, and constituted the target population. The independent variable, the experimental treatment, consisted of a program of classroom management intervention training. The dependent variable, the outcomes measures, were designed to assess the effects of the classroom management behaviors of the inductee teachers.

The observer training was conducted by this researcher. Six members of the Franklin County/OSU Induction Project and this researcher served as observers. Observers were trained to conduct the assessments using three instruments: classroom rating scales, narrative notes, and student engagement ratings. These data were collected over a period of four months. In total, 136 classroom observations were completed, each approximately 40 minutes in length. The analysis performed on each instrument included the use of descriptive statistics, ANOVA and Generalizability Theory.

Chapter IV

Results

This chapter will report results and analyses of the general hypothesis that guided this study. The results and interpretations of data collected through three instruments used to assess differences among inductee teachers on observed classroom management behavior will be presented.

Classroom Rating Scales

Three sub-hypotheses were posited to investigate the differences among inductee teachers on observed classroom management behaviors. In the null form, they were:

Ho₁: Group I inductee teachers will be equivalent to Group II teachers on: (a) instructional management; (b) rules and procedures; (c) meeting students' concerns; (d) managing pupil behavior; and (e) student misbehavior.

Ho₂: Group I inductee teachers will be equivalent to Group III on: (a) instructional management; (b) rules and procedures; (c) meeting students' concerns; (d) managing pupil behavior; and (e) student misbehavior.

Ho₃: Group II inductee teachers will be equivalent to Group III on: (a) instructional management; (b) rules and procedures; (c) meeting student concerns; (d) managing pupil behavior; and (e) student misbehavior.

Inductee classroom rating scales were comprised of the above five domains. Each domain was examined in three distinct but related ways. First, results of the descriptive data will be presented. Second, results of analysis of variance among groups conducted will be presented. Finally, the results from Generalizability Theory (Brennan, 1983; Cronbach et al., 1972) to assess the extent to which the observed measures consistently differentiated between teachers and were generalizable over teachers, items and occasions will be presented.

Domain 1 (Instructional Management)

The Instructional Management domain was assessed by 10 items of the Classroom Rating Scales instrument. The descriptive breakdown by item, averaged across three observation occasions has been presented in Table 7. An inspection of Table 7 has revealed that each group of inductees were rated consistently above the "adequacy" level (3.00) on nearly all items. The exception was the ratings for Group I (2.80) and Group III (2.83) on "readiness of materials" (item 2). This item was also the lowest rated for Group II. Inspection of the item standard deviations revealed that the ratings for item 4, "assignments for different students" showed the highest or second highest degree of variability of any item within a group. This was, however, the only item that showed consistent variability across groups.

Table 7
Frequencies, Means, and Standard Deviations of
Item Scores^a in Domain 1 (Instructional Management)
by Experimental Group

Group ^b	Item Number										Total
	1	2	3	4	5	6	7	8	9	10	
I	$\frac{3.77}{.69}$	$\frac{2.70}{.70}$	$\frac{3.43}{.48}$	$\frac{3.87}{1.25}$	$\frac{3.42}{.67}$	$\frac{4.20}{.55}$	$\frac{4.13}{.46}$	$\frac{3.85}{.55}$	$\frac{4.20}{.66}$	$\frac{4.20}{.57}$	$\frac{3.78}{.38}$
II	$\frac{4.13}{.87}$	$\frac{3.20}{.48}$	$\frac{3.67}{.85}$	$\frac{4.30}{1.14}$	$\frac{3.80}{.97}$	$\frac{3.77}{1.00}$	$\frac{4.00}{.80}$	$\frac{3.77}{1.29}$	$\frac{3.68}{.96}$	$\frac{3.85}{.92}$	$\frac{3.82}{.78}$
III	$\frac{4.03}{.98}$	$\frac{2.83}{.77}$	$\frac{3.33}{.88}$	$\frac{3.80}{1.44}$	$\frac{3.10}{.85}$	$\frac{3.40}{1.30}$	$\frac{3.67}{.95}$	$\frac{3.77}{1.09}$	$\frac{4.00}{1.09}$	$\frac{3.90}{1.21}$	$\frac{3.58}{.74}$

^aItem Scale: 5 = highest, 1 = lowest; item scores are averages across three occasions

^b_n = 10 per group

An examination of the group means for Domain 1 showed little difference between Group I (3.78) and Group II (3.82). Both mean ratings, however, were higher than that of Group III, the control group (3.58).

Furthermore, the groups exhibited marked differences in variability on the average (across items and occasions) domain scores. While Group II and III were fairly similar in degree of variability (standard deviations of .78 and .74, respectively), Group I appeared to have been relatively homogeneous in terms of ratings.

The ANOVA conducted to detect significant differences between groups for Domain 1 ratings has been summarized in Table 8. The results of the F tests for any group main effect (g) or interaction effects (gi) were not statistically significant ($\alpha=0.5$). The null hypotheses (H_{01a} H_{02a} and H_{03a}) would, therefore, be accepted and the alternative hypotheses (H_{a1a} H_{a2a} and H_{a3a}) would not be supported. These results implied that the intervention training did not result in significantly higher classroom ratings on the instructional management domain. Even though the overall group means implied possible differences among the groups, the within-groups (error) variation was great enough to negate statistically significant differences.

A summary of the G study and D study analysis by group was presented in Table 9. The series of ANOVAs from which these variance components were derived were summarized in Table E-1 to E-3 in Appendix D. The G study variance components represented the parts of the

Table 8
ANOVA Summary Table for Classroom Ratings
on Domain 1 (Instructional Management)

		Group		
		I	II	III
n		10	10	10
Mean		3.78	3.82	3.58
Standard Deviation		.38	.78	.74

Source	df	SS	MS	F
Group (g)	2	9.3422	4.6711	.36
Teacher (t):g	27	349.9033	12.9594	2.04
Occasions (o):t:g	60	329.2667	5.4878	10.53
Items (i)	9	281.0289	31.2254	21.68
gi	18	25.9244	1.4403	1.05
ti:g	243	334.3467	1.3759	2.64
oi:t:g	540	281.4000	.5211	
Total	899	1,611.2122		

Table 9
Estimated Variance Components from G Study
and D Study on Classroom Ratings,
Domain 1 (Instructional Management)
Random Effects Models

Effect	Estimated Variance Components, G-Study			D Study Samp. Freq.	Estimated Variance Components, D-Study		
	Grp. I	Grp. II	Grp. III		Grp. I	Grp. II	Grp. III
t	.0000	.4240	.3590	1	.0000	.4240	.3590
o:t	.6907	.4500	.3493	3	.2303	.1500	.1164
i	.4063	.1993	.3937	10	.0406	.0199	.0394
ti	.2304	.1369	.4874	10	.0230	.0137	.0487
oi:t	.4176	.5717	.5741	30	.0139	.0191	.0191
Universe Score Variance:				=	.0000	.4240	.3590
Relative Error Variance:				=	.2672	.1828	.1842
Generalizability Coefficient:				=	.000	.699	.661

variance of a single teacher's rating on a single item on a single occasion that were uniquely attributable to each separate effect in the table. It was seen that, in general, the G study variance components for the main effects of occasions (o:t) and items (i) were relatively large in comparison to the main effects for teachers (t). This was especially true for occasions: variance components for the main effects and interaction effects (oi:t) were nearly as large or larger than those for teachers for all three groups. The extremely low variance components for Group I teachers (.00) was in part a reflection of the previously noted relative homogeneity of this group on item ratings. Only in Group II were the item effects (i) not a high source of variability. Lastly, the relatively high variance components for oi:t suggested that much of the variance was associated with the residual error and/or interaction effects for occasions and items within teachers.

The D study variance components were given in the last three columns of Table 9. In contrast to G study variance components, D study components were associated with mean or average teacher ratings for sets of conditions (i.e., number of items and number of occasions). The D study design had teachers (random) designated as the objects of measurement, and occasions and items designated as random facets. The results were thus generalizable to the infinite universe of occasions, items, and teachers. In this study, the sample of Domain

1 items was 10, and the sample of observation occasions was three. The D study variance components in Table 9 revealed the substantial source of variance due to the set of three occasions employed in this study. The occasion variance component was the greatest source of error variance for all three groups. The universe score for teachers could be considered an "ideal" score and as such was analogous to a "true score" in classical test theory. The universe score variance for teachers reflected the variance of the mean score for teachers over all conditions of the study. The magnitude of the relative error variance at the bottom of Table 9 depended on differences between teacher observed scores and universe scores relative to the population means for observed and universe scores. The variance component for occasions was by far the greatest contributor to the relative error variance for all three groups. The coefficients of generalizability at the bottom of the table were calculated as the ratio of the universe score variance to the expected observed score variance (universe score variance plus relative error variance). The extremely low coefficient value for Group I (.000) was, as mentioned above, a result of the homogeneity of this group. The coefficients for Groups II and III, however, were moderately high (.70 and .66, respectively), suggesting that the group means for these two groups were relatively dependable, given the conditions of the study. Furthermore, it must be noted that a reduction in the contribution of variance due to occasions to the

relative error variance would result in even higher generalizability coefficients. This reduction would result if the number of occasions was increased over the three used in this study.

In sum, the group means on Domain 1 (Instructional Management) apparently suggested that Group I and Group II were similar in their ratings, with both being rated more favorably than Group III. However, significant sources of variability due to occasions and items resulted in no statistically significant differences in the group means. In general, the group means were dependable (stable), with the exception of that for Group I. The substantial contribution of occasions to the error variance suggested avenues for improving the generalizability of the results of future studies as will be presented in Chapter 5, Implications for Further Study.

Domain 2 (Rules and Procedures)

The Rules and Procedures Domain was assessed by three items of the Classroom Rating Scales instrument. The descriptive breakdown by item, averaged across three observation occasions, was represented in Table 10. An inspection of Table 10 revealed that each group of inductees were rated consistently above the "adequacy" level (3.00) on all items. The ratings for Group II (4.15) on "appropriate general procedures" (item 1), (4.08) on "efficient small group procedures" (item 2), and (4.13) on "routines of assigning, checking and collecting work" (item 3) were rated above the "adequacy" level and were higher

Table 10
 Frequencies, Means, and Standard Deviations of
 Item Scores^a in Domain 2 (Rules and Procedures)
 by Experimental Groups

Group	n	Item Number			Total
		1	2	(SD)	
I	10	$\frac{3.70}{.97}$	$\frac{3.22}{1.47}$	$\frac{3.23}{.50}$	$\frac{3.59}{.82}$
II	10	$\frac{4.15}{.88}$	$\frac{4.08}{.86}$	$\frac{4.13}{.74}$	$\frac{4.12}{.69}$
III	10	$\frac{3.43}{1.11}$	$\frac{3.32}{1.47}$	$\frac{3.27}{1.15}$	$\frac{3.34}{1.10}$

^aItem Scale: 5 = highest, 1 = lowest

than either Group I or Group III. Inspection of the item standard deviations indicated that the ratings for item 2, "efficient small group procedures" showed the highest degree of variability of any item within a group. However, there was little consistency in the variability across groups.

An examination of the group means for Domain 2 showed little difference between Group I (3.59) and Group III (3.34). Both mean ratings, however, were lower than that of Group II (4.12).

Furthermore, the groups exhibited marked differences in variability on average (across items and occasions) domain scores. While Group I and II were fairly similar in degree of variability (standard deviations of .82 and .69, respectively), Group III showed the highest degree of variability (1.19).

The ANOVA conducted to detect significant differences between groups for Domain 2 ratings was summarized in Table 11. The results of the F tests for any group main effect (g) or interaction effects (gi) were not statistically significant ($\alpha = 0.5$). The null hypotheses (H_{01b} , H_{02b} and H_{03b}) would, therefore, be accepted and the alternative hypotheses (H_{a1b} , H_{a2b} and H_{a3b}) would not be supported. These results implied that the intervention training did not result in higher classroom ratings on the rules and procedures domain. Even though the overall group means implied possible differences among the groups, the within-groups (error) variation was great enough to negate statistically significant differences.

Table 11
ANOVA Summary Table for Classroom Ratings
on Domain 2 (Rules and Procedures)

	Group		
	I	II	III
n	10	10	10
Mean	3.59	4.12	3.34
Standard Deviation	.82	.69	1.19

Source	df	SS	MS	F
Group (g)	2	28.8167	14.4083	1.91
Teacher (t):g	27	207.9139	7.7005	3.67
Occasions (o):t:g	60	87.9444	1.4657	2.45
Items (i)	2	2.8222	1.4111	1.32
gi	4	4.2611	1.0653	.86
ti:g	54	66.5278	1.2320	2.06
oi:t:g	120	71.8889	.5991	
Total	269	470.1750		

A summary of the G study and D study results by group was presented in Table 12. The series of ANOVAs from which these variance components were derived were summarized in Table E-4 to E-6 in Appendix D. The G study variance components represented the parts of the variance of a single teacher's rating on a single item on a single occasion that were uniquely attributable to each separate effect in the table. It was seen that, in general, the G study variance components for the main effects of occasions (o:t) and items (i) were relatively small in comparison to the main effects for teachers (t). This was especially true for items; variance components for the main effects were extremely lower than those for teachers for all three groups were interaction effects (oi:t) for Groups I and III. However, the interaction effects (oi:t) for Group I was larger than the main effects of teachers in Group I. Only in Group I were the interaction effects (ti) and oi:t not a low source of variability. Lastly, the relatively high variance components for oi:t suggested that much of the variance was associated with the residual error and/or interaction effects for occasions and items within teachers. The D study variance components were given in the last three columns of Table 12. In contrast to G study variance components, D study components were associated with mean or average teacher ratings for sets of conditions (i.e., number of items and number of occasions). The D study design had teachers (random) designated as the objects of measurement, and occasions and items designated as random facets. The results were thus generalizable

Table 12
Estimated Variance Components from G-Study
and D Study on Classroom Ratings, Domain 2 (Rules and Procedures)
Random Effects Models

Effect	Estimated Variance Components, G-Study			D Study Samp. Freq.	Estimated Variance Components, D-Study		
	Grp. I	Grp. II	Grp. III		Grp. I	Grp. II	Grp. III
t	.4063	.3050	1.1259	1	.4063	.3050	1.1259
o:t	.1111	.1722	.5833	3	.0370	.0574	.1944
i	.0415	(0.0)	(0.0)	3	.0138	.0000	.0000
ti	.4863	.2369	(0.0)	3	.1621	.0790	.0000
oi:t	.5833	.2667	.9472	9	.0648	.0296	.1052
Universe Score Variance:				=	.4063	.3050	1.1259
Relative Error Variance:				=	.2639	.1660	.2996
Generalizability Coefficient:				=	.606	.648	.790

to the infinite universes of occasions, items and teachers. In this study, the sample of Domain 2 items was three, and the sample of observation occasions was three. The D study variance components in Table 12 revealed the substantial source of variance due to the set of three occasions employed in this study. The occasion variance component was the greatest source of error variance for Group III. The interaction of teacher and item (ti) was the greatest source of error variance for Group I and II. The universe score for teachers could be considered an "ideal" score and as such was analogous to a "true score" in classical test theory. The universe score variance for teachers reflected the variance of the mean score for teachers over all conditions of the study. The magnitude of the relative error variance at the bottom of Table 12 depended on differences between teacher observed scores and universe scores relative to the population means for observed and universe scores. The variance component for occasions and interaction of teacher and occasion was by far the greatest contributor to the relative error variance. The coefficients of generalizability at the bottom of the table were calculated as the ratio of the universe score variance to the expected observed score variance (universe score variance plus relative error variance). The coefficients for all three groups were moderately high (.60, .64, and .79 respectively), suggesting that the group means for these three groups were relatively dependable given the conditions of the study. Furthermore, it must be noted that a reduction in the contribution of

variance due to occasions to the relative error variance would result in even higher generalizability coefficients. This reduction would result if the number of occasions was increased over the three used in this study.

In sum, the group means on Domain 2 (Rules and Procedures) apparently suggested that Group I and Group III were similar in their ratings, with Group II being rated more favorably than either of these two Groups. However, significant sources of variability due to occasions and items resulted in no statistically significant differences in the group means. The means for all three groups were considered dependable (stable) as reflected in the generalizability coefficient. The substantial contribution of occasions and interaction of teacher and occasion to the error variance suggested avenues for improving the generalizability of the results of future studies as will be presented in Chapter 5, Implications for Further Study.

Domain 3 (Meeting Student Concerns)

The Meeting Student Concerns domain was assessed by three items of the Classroom Rating Scales instrument. The descriptive breakdown by item, averaged across three observation occasions, was presented in Table 13. An inspection of Table 13 revealed that each group of inductees were rated consistently above the "adequacy" level (3.00) on nearly all items. Inspection of the item standard deviations showed that the ratings for item 1, "attention span considered in lessons," showed the highest or second highest degree of variability of any item

Table 13
 Frequencies, Means, and Standard Deviations of
 Item Scores^a in Domain 3 (Meeting Student Concerns)
 by Experimental Group

Group	n	Item Number			Total
		1	2	3	
I	10	$\frac{3.80}{.61}$	$\frac{3.63}{.58}$	$\frac{3.77}{.50}$	$\frac{3.73}{.45}$
II	10	$\frac{3.82}{1.02}$	$\frac{3.67}{.89}$	$\frac{3.73}{.93}$	$\frac{3.74}{.84}$
III	10	$\frac{3.40}{1.16}$	$\frac{3.42}{.81}$	$\frac{3.30}{.91}$	$\frac{3.37}{.86}$

^aItem Scale: 5 = highest, 1 = lowest

within a group. An examination of the group means for Domain 3 showed little difference between Group I (3.73) and Group II (3.74). Both mean ratings, however, were higher than that of Group III, the control group (3.37).

Furthermore, the groups exhibited marked differences in variability on average (across items and occasions) domain scores. While Group II and III were fairly similar in degree of variability (standard deviations of .84 and .86, respectively), Group I appeared to have been relatively homogeneous in terms of ratings.

The ANOVA conducted to detect significant differences between groups for Domain 3 ratings was summarized in Table 14. The results of the F tests for any group main effect (g) or interaction effects (gi) were not statistically significant ($\alpha = 0.5$). The null hypothesis (H_{01C} H_{02C} and H_{03C}) would, therefore, be accepted and the alternative hypothesis (H_{a1C} H_{a2C} and H_{a3C}) would not be supported. These results implied that the intervention training did not result in significantly higher classroom ratings on the meeting student concerns domain. Even though the overall group means implied possible differences among the groups, the within-groups (error) variation was great enough to negate statistically significant differences.

A summary of the G study and D study results by group was presented in Table 15. The series of ANOVAs from which these variance components

Table 14
ANOVA Summary Table for Classroom Ratings
on Domain 3 (Meeting Student Concerns)

	Group		
	I	II	III
n	10	10	10
Mean	3.73	3.74	3.37
Standard Deviation	.45	.84	.86

Source	df	SS	MS	F
Group (g)	2	7.9463	3.9732	.92
Teacher (t):g	27	133.4944	4.9442	2.47
Occasions (o):t:g	60	101.3333	1.6889	3.68
Items (i)	2	.4796	.2398	1.70
gi	4	.5648	.1412	.18
ti:g	54	41.6222	.7708	1.68
oi:t:g	120	55.0000	.4583	
Total	269	340.4407		

Table 15
Estimated Variance Components from G Study
and D Study on Classroom Ratings, Domain 3 (Meeting Student Concerns),
Random Effects Models

Effect	Estimated Variance Components, G-Study			D Study Samp. Freq.	Estimated Variance Components, D-Study		
	Grp. I	Grp. II	Grp. III		Grp. I	Grp. II	Grp. III
t	(0.0)	.4673	.5513	1	.0000	.4673	.5513
o:t	.5389	.4389	.2528	3	.1796	.1463	.0843
i	(0.0)	(0.0)	(0.0)	3	.0000	.0000	.0000
ti	.0710	.1115	.1299	3	.0237	.0372	.0433
oi:t	.3167	.5139	.5444	9	.0352	.0571	.0605
Universe Score Variance:				=	.0000	.4673	.5513
Relative Error Variance:				=	.2385	.2406	.1881
Generalizability Coefficient:				=	.000	.660	.746

were derived were summarized in Table E-7 to E-9 in Appendix D. The G study variance components represented the parts of the variance of a single teacher's rating on a single item on a single occasion that were uniquely attributable to each separate effect in the table. It was seen that, in general, the G study variance components for the main effects of occasions (o:t) and items (i) were relatively small in comparison to the main effects for teachers (t). This was especially true for items: variance components for the main effects and interaction effects (oi:t) were nearly as small or smaller than those for teachers in Groups II and III. The extremely low variance components for Group I teachers (.00) was, in part, a reflection of the previously noted relative homogeneity of this group on item ratings. For all three groups the item effects (i) were not a high source of variability (o). Lastly, the relatively high variance components for oi:t suggested that much of the variance was associated with the residual error and/or interaction effects for occasions and items within teachers.

The D study variance components were given in the last three columns of Table 15. In contrast to the G study variance components, D study components were associated with mean or average teacher ratings for sets of conditions (i.e., number of items and number of occasions). The D study design had teachers (random) designated as the objects of measurement, and occasions and items designated as random facets. The results were thus generalizable to the infinite universes

of occasions, items and teachers. In this study, the sample of Domain 3 items was three, and the sample of observation occasions was three. The D study variance components in Table 15 revealed the substantial source of variance due to the set of three occasions employed in this study. The occasion variance component was the greatest source of error variance for all three groups. The universe score for teachers could be considered an "ideal" score and as such was analogous to a "true score" in classical test theory. The universe score variance for teachers reflected the variance of the mean score for teachers over all conditions of the study. The magnitude of the relative error variance at the bottom of Table 15 depended on differences between teacher observed scores and universe scores relative to the population means for observed and universe scores. The variance component for occasions was by far the greatest contributor to the relative error variance for all three groups. The coefficients of generalizability at the bottom of the table were calculated as the ratio of the universe score variance to the expected observed score variance (universe score variance plus relative error variance). The extremely low coefficient value for Group I (.000) was, as mentioned above, a result of the homogeneity of this group. The coefficients for Groups II and III, however, were moderately high (.66 and .75 respectively), suggesting that the group means for these two groups were relatively dependable, given the conditions of the study. Furthermore, it must be noted that a reduction in the contribution of variance due to occasions to the

relative error variance would result in even higher generalizability coefficients. This reduction would result if the number of occasions was increased over the three used in this study.

In sum, the group means on Domain 3, Meeting Student Concerns, suggested that Group I and Group II were similar in their ratings, with both being rated more favorably than Group III. However, significant sources of variability due to occasions and items resulted in no statistically significant differences in the group means. In general, the group means were dependable (stable), with the exception of that for Group I. The substantial contribution of occasions to the error variance suggested avenues for improving the generalizability of the results of future studies, as will be presented in Chapter 5, Implications for Further Study.

Domain 4 (Managing Pupil Behavior)

The Managing Pupil Behavior domain was assessed by four items of the Classroom Rating Scales instrument. The descriptive breakdown by item, averaged across three observation occasions, was presented in Table 16. An inspection of Table 16 revealed that each group of inductees were rated consistently above the "adequacy" level (3.00) on all items. Inspection of the item standard deviations showed that the ratings for item 4, "efficient transition between activities" showed the highest degree of variability of any item within a group. This was, however, the only item that showed consistent variability across groups.

Table 16
Frequencies, Means, and Standard Deviations of
Item Scores^a in Domain 4 (Managing Pupil Behavior),
by Experimental Group

Group	n	Item Number				Total
		1	2	3	4	
I	10	$\frac{3.47}{.61}$	$\frac{3.73}{.95}$	$\frac{3.73}{.72}$	$\frac{3.55}{1.01}$	$\frac{3.62}{.64}$
II	10	$\frac{3.87}{.96}$	$\frac{3.87}{1.02}$	$\frac{3.77}{1.16}$	$\frac{3.62}{1.14}$	$\frac{3.78}{1.04}$
III	10	$\frac{3.43}{.86}$	$\frac{3.50}{1.17}$	$\frac{3.30}{1.09}$	$\frac{3.50}{1.15}$	$\frac{3.43}{.96}$

^aItem Scale: 5 = highest, 1 = lowest

An examination of the group means for Domain 4 showed little difference between Group I (3.62) and Group II (3.78). Both mean ratings, however, were higher than that of Group III, the control group (3.43).

Furthermore, the groups exhibited marked differences in variability on average (across items and occasions) domain scores. While Group I and III were somewhat similar in degree of variability (standard deviations of .64 and .96 respectively), Group II appeared to have the greatest degree of variability in terms of ratings.

The ANOVA conducted to detect significant differences between groups for Domain 4 ratings was summarized in Table 17. The results of the F tests for any group main effect (g) or interaction effects (gi) were not statistically significant ($\alpha = 0.5$). The null hypotheses (H_{01d} H_{02d} and H_{03d}) would, therefore, be accepted and the alternative hypothesis (H_{a1d} H_{a2d} and H_{a3d}) would not be supported. These results implied that the intervention training did not result in higher classroom ratings on the managing pupil behavior domain. Even though the overall group means implied possible differences among the groups, the within-groups (error) variation was great enough to negate statistically significant differences.

A summary of the G study and D study analysis by group was presented in Table 18. The series of ANOVAs from which these variance components were derived were summarized in Table E-10 to E-12 in Appendix D.

Table 17
ANOVA Summary Table for Classroom Ratings
on Domain 4 (Managing Pupil Behavior)

	Group		
	I	II	III
n	10	10	10
Mean	3.62	3.78	3.43
Standard Deviation	.64	1.04	.96

Source	df	SS	MS	F
Group (g)	2	7.1931	3.5965	.39
Teacher (t):g	27	258.6958	9.5813	3.23
Occasions (o):t:g	60	150.6667	2.5111	6.71
Items (i)	3	1.0444	.3482	.79
gi	6	2.6347	.4391	.53
ti:g	81	66.9875	.8270	2.21
oi:t:g	180	67.3333	.3741	
Total	269	554.5556		

Table 18
Estimated Variance Components from G Study
and D Study on Classroom Ratings, Domain 4 (Managing Pupil Behavior),
Random Effects Models

Effect	Estimated Variance Components, G-Study			D Study Samp. Freq.	Estimated Variance Components, D-Study		
	Grp. I	Grp. II	Grp. III		Grp. I	Grp. II	Grp. III
t	.1222	.8470	.6851	1	.1222	.8470	.6851
o:t	.5611	.6014	.4403	3	.1870	.2005	.1468
i	(0.0)	.0036	(0.0)	4	.0000	.0009	.0000
ti	.2285	.0047	.2197	4	.0571	.0012	.0549
oi:t	.5035	.2965	.3222	12	.0420	.0247	.0269
Universe Score Variance:				=	.1222	.8470	.6851
Relative Error Variance:				=	.2861	.2264	.2268
Generalizability Coefficient:				=	.299	.789	.750

The G study variance components represented the parts of the variance of a single teacher's rating on a single item on a single occasion that was uniquely attributable to each separate effect in the table. It was seen that, in general, the G study variance components for the main effects of occasions (o:t) and items (i) were relatively smaller in comparison to the main effects for teachers (t). This was especially true for items; variance components for the main effects and interaction effects (oi:t) were smaller than those for teachers for all three groups except for Group I where the variance component for the main effects of occasions (o:t) was extremely higher. The extremely low variance components for Group I teachers (.12) was, in part, a reflection of the relative homogeneity of this group on item ratings. The item effects (i) were not a high source of variability in any of the three groups. Lastly, the relatively high variance components for oi:t suggested that much of the variance was associated with the residual error and/or interaction effects for occasions and items within teachers.

The D study variance components were given in the last three columns of Table 18. In contrast to G study variance components, D study components were associated with mean or average teacher ratings for sets of conditions (i.e., number of items and number of occasions). The D study design had teachers (random) designated as the objects of measurement, and occasions and items designated as random facets. The results were thus generalizable to the infinite universes

of occasions, items and teachers. In this study, the sample of Domain 4 items was four, and the sample of observation occasions was three. The D study variance components in Table 18 revealed the substantial source of variance due to the sets of three occasions employed in this study. The occasion variance component was the greatest source of error variance for all three groups. The universe score for teachers could be considered an "ideal" score and as such was analogous to a "true score" in classical test theory. The universe score variance for teachers reflected the variance of the mean score for teachers over all conditions of the study. The magnitude of the relative error variance at the bottom of Table 18 depended on differences between teacher observed scores and universe scores relative to the population means for observed and universe scores. The variance component for occasions was by far the greatest contributor to the relative error variance for all three groups. The coefficients of generalizability at the bottom of the table were calculated as the ratio of the universe score variance to the expected observed score variance (universe score variance plus relative error variance). The extremely low coefficient value for Group I (.29) was, as mentioned above, a result of the homogeneity of this group. The coefficients for Groups II and III, however, were moderately high (.79 and .75 respectively), suggesting that the group means for these two groups were relatively dependable given the conditions of the study. Furthermore, it must be noted that a reduction in the contribution of variance due to occasions to the

relative error variance would result in even higher generalizability coefficients. This reduction would result if the number of occasions was increased over the three used in this study.

In sum, the group means on Domain 4 (Managing Pupil Behavior) apparently suggested that Group I and Group II were similar in their ratings, with both being rated more favorably than Group III. However, significant sources of variability due to occasions and items resulted in no statistically significant differences in the group means. In general, the group means were dependable (stable), with the exception of that for Group I. The substantial contribution of occasions to the error variance suggested avenues for improving the generalizability of the results of future studies, as will be presented in Chapter 5, Implications for Further Study.

Domain 5 (Student Misbehavior)

The Student Misbehavior domain was assessed by two items of the Classroom Rating Scales instrument. The descriptive breakdown by item, averaged across three observation occasions, was presented in Table 19. An inspection of Table 19 revealed that each group of inductees were rated consistently below 3.00 on all items. The item scale rating for this domain was interpreted differently than for all other domains in the Classroom Rating instrument. The rating of five was considered an unfavorable rating of and the rating one was considered the most favorable. In other words, five meant much student misbehavior and

Table 19
Frequencies, Means, and Standard Deviations of
Item Scores^a in Domain 5 (Student Misbehavior),
by Experimental Group

Group	n	Item Number		$\bar{X}$ (SD)
		1	2	Total
I	10	$\frac{1.83}{.77}$	$\frac{2.77}{.47}$	$\frac{2.30}{.53}$
II	10	$\frac{1.93}{.93}$	$\frac{2.50}{.84}$	$\frac{2.22}{.86}$
III	10	$\frac{2.03}{1.04}$	$\frac{2.97}{1.05}$	$\frac{2.50}{.96}$

^aItem Scale: 5 = a lot, 1 = none

one meant there was none. Inspection of the standard deviations showed that the ratings for Group III was the only group that exhibited consistent variability across groups. An examination of the group means for Domain 5 showed little difference between Group I (2.30) and Group II (2.22). Both mean ratings, however, were lower than that of Group III, the control group (2.50).

Furthermore, the groups exhibited marked differences in variability on average (across items and occasions) domain scores. While Group II and III were fairly similar in degree of variability (standard deviations of .86 and .96, respectively), Group I appeared to have been relatively homogeneous in terms of ratings.

The ANOVA conducted to detect for significant differences between groups for Domain 5 ratings was summarized in Table 20. The results of the F tests for any group main effect (g) or interaction effects (gi) were not statistically significant ($\alpha = .05$). The null hypotheses (H_{01e} , H_{02e} and H_{03e}) would, therefore, be accepted and the alternative hypotheses (H_{a1e} , H_{a2e} and H_{a3e}) would not be supported. These results implied that the intervention training did not result in higher classroom ratings on the Student Misbehavior Domain. Even though the overall group means implied possible differences among the groups, the within-groups (error) variation was great enough to negate statistically significant differences.

Table 20
ANOVA Summary Table for Classroom Ratings
on Domain 5 (Student Misbehavior)

	Group		
	I	II	III
n	10	10	10
Mean	2.30	2.22	2.50
Standard Deviation	.53	.86	.96

Source	df	SS	MS	F
Group (g)	2	2.5444	1.2722	.33
Teacher (t):g	27	104.2833	3.8624	2.38
Occasions (o):t:g	60	100.0000	1.6667	2.27
Items (i)	1	29.6056	29.6057	44.04
gi	2	1.3444	.6722	.98
ti:g	27	18.5500	.6870	.94
oi:t:g	60	44.0000	.7333	
Total	179	300.3279		

A summary of the G study and D study analysis by group was presented in Table 21. The series of ANOVAs from which these variance components were derived were summarized in Table E-13 to E-15 in Appendix D. The G study variance components represented the parts of the variance of a single teacher's rating on a single item on a single occasion that were uniquely attributable to each separate effect in the table. It was seen that, in general, the G study variance components for the main effects of occasions (o:t) were relatively large in comparison to the main effects for teachers (t) for Group I and II but relatively smaller for Group III. The variance components for the main effects of items were smaller for Group II and Group III; however, Group I was relatively larger. The extremely low variance components for Group I teachers (.03) was, in part, a reflection of the previously noted relative homogeneity of this group on item ratings. Only in Group II were the item effects (i) not a high source of variability. Lastly, the relatively high variance components for oi:t in Group I and Group III suggested that much of the variance was associated with the residual error and/or interaction effects for occasions and items within teachers. In contrast, Group II showed that much of Group II variance was associated with the main effects of occasions.

The D study variance components were given in the last three columns of Table 21. In contrast to G study variance components, D study components were associated with mean or average teacher ratings for sets of conditions (i.e., number of items and number of

Table 21
Estimated Variance Components from G Study
and D Study on Classroom Ratings, Domain 5 (Student Misbehavior),
Random Effects Models

Effect	Estimated Variance Components, G-Study			D Study Samp. Freq.	Estimated Variance Components, D-Study		
	Grp. I	Grp. II	Grp. III		Grp. I	Grp. II	Grp. III
t	.0265	.4691	.6253	1	.0265	.4691	.6253
o:t	.3833	.6667	.3500	3	.1278	.2222	.1167
i	.4099	.1519	.4012	2	.2050	.0760	.2006
ti	(0.0)	(0.0)	.0321	2	.0000	.0000	.0161
oi:t	1.0000	.2667	.9333	6	.1667	.0445	.1556
Universe Score Variance:				=	.0265	.4691	.6253
Relative Error Variance:				=	.2945	.2667	.2884
Generalizability Coefficient:				=	.083	.638	.684

occasions). The D study design had teachers (random) designated as the objects of measurement, and occasions and items designated as random facets. The results were thus generalizable to the infinite universes of occasions, items and teachers. In this study, the sample of Domain 5 items was two, and the sample of observation occasions was three. The D study variance components in Table 21 revealed the substantial source of variance due to the set of three occasions employed in this study. The occasion variance component was the greatest source of error variance for Group II and the item variance component was the greatest source of error for Group I and III. The universe score for teachers could be considered an "ideal" score and as such was analogous to a "true score" in classical test theory. The universe score variance for teachers reflected the variance of the mean score for teachers over all conditions of the study. The magnitude of the relative error variance at the bottom of Table 21 depended on differences between teacher observed scores and universe scores relative to the population means for observed and universe scores. The variance component for item was by far the greatest contributor to the relative error variance for Groups I and III, with occasions variance component contributing to the relative variance for Group II. The coefficients of generalizability at the bottom of the table were calculated as the ratio of the universe score variance to the expected observed score variance (universe score variance plus relative error variance). The extremely low coefficient value for Group I (.08) was,

as mentioned above, a result of the homogeneity of this group. The coefficients for Groups II and III, however, were moderately high (.63 and .68, respectively), suggesting that the group means for these two groups were relatively dependable, given the conditions of the study. Furthermore, it must be noted that a reduction in the contribution of variance due to occasions and items to the relative error variance would result in even higher generalizability coefficients. This reduction would result if the number of occasions (three) and the number of items (two), which were used in this study, were increased. In sum, the group means on Domain 5 (Student Misbehavior) apparently suggested that Group I and Group II were similar in their ratings, with both being rated more favorably than Group III. However, significant sources of variability due to occasions and items resulted in no statistically significant differences in the group means. In general, the group means were dependable (stable), with the exception of that for Group I. The substantial contribution of occasions and items to the error variance suggested avenues for improving the generalizability of the results of future studies, as will be presented in Chapter 5, Implications for Further Study.

Student Engagement Ratings

Three null hypotheses were posited to investigate the differences among inductee teachers on observed student engagement behaviors. They were as follows:

$$H_{01}: \mu^{\sim} I = \mu^{\sim} II$$

$$H_{02}: \mu^{\sim} I = \mu^{\sim} III$$

$$H_{03}: \mu^{\sim} II = \mu^{\sim} III$$

Inductee student engagement ratings were composed of three domains: definitely-on task, probably-on task, and off-task behaviors. Each domain was examined in three distinct but related ways. First, results of the descriptive data will be presented. Second, results of analysis of variance conducted will be presented. Finally, the results from Generalizability Theory (Brennan, 1983; Cronbach et al., 1972), which assessed the extent to which the observed measures consistently differentiated between teachers and were generalizable over teachers and occasions, will be presented.

Percent Class Task Behavior by Item

The Percent Class Task Behavior domain was assessed by three items (definitely-on task, probably-on task, and off-task) of the Student Engagement Rating Scales instrument. The descriptive breakdown by item, averaged across three observation occasions, was presented in Table 22. An inspection of Table 22 revealed that Group I and Group II were rated above 75 percent on the definitely-on task behavior with Group III (control group) rated below 75 percent of the definitely-on task behavior. It should be noted that the highest ratings for probably-on and off-task were not favorable ratings because a higher rating on either of those items meant that students were not

Table 22
Means, and Standard Deviations of
Student Engagement Scores on Class Task Behavior
by Treatment Group

Group	n	Percent Class Task Behavior ($\bar{X}$ SD)		
		Def. On	Prob. On	Off
I	10	$\frac{84.1}{9.6}$	$\frac{8.4}{5.0}$	$\frac{8.0}{5.4}$
II	10	$\frac{77.5}{11.8}$	$\frac{11.1}{5.2}$	$\frac{11.1}{11.2}$
III	10	$\frac{71.3}{17.0}$	$\frac{8.6}{4.2}$	$\frac{20.4}{14.4}$

engaged in class-task behavior. Group I and Group III were rated fairly consistent on the percent of probably-on task behavior (8.4% and 8.6%, respectively) with the exception of Group II (11.1%). Group I and Group II were rated the lowest on off-task behavior (8.0% and 11.1%, respectively) followed by Group III (the control group) which was extremely high (20.4%). Inspection of the percent class task behavior standard deviations indicated that the ratings for definitely-on task behavior showed the highest or second highest degree of variability of any item within a group. The only item that showed consistent variability across groups was the probably-on task behavior. An examination of the group means percent for definitely-on task behavior showed little difference between groups (84.1%, 77.5%, and 71.3%, respectively); also, there appeared to be little differences in the group means percent for probably-on task behavior (8.4%, 11.1%, and 8.1%, respectively). The only exception was for the group means on off-task behavior, which showed an extreme amount of difference between groups (8.0%, 11.1%, and 20.4%, respectively), thus revealing that the mean ratings of Group III (the control group) were higher than for those of Group I and Group II (experimental groups) on the off-task class behaviors. In other words, there were more students off-task in the control group than the experimental groups.

Furthermore, the groups exhibited marked differences in variability on average (across percent class task behavior and occasions) student

engagement scores. Group II and Group III had the greatest degree of variability, with Group I appearing to have been relatively homogeneous in terms of ratings.

The ANOVAs and G and D studies on student engagement ratings by groups for the definitely-on task class behavior, probably-on task behavior and off-task behavior have been analyzed separately and are described in what follows.

Definitely-On Task Behavior. The ANOVA conducted to detect significant differences between groups for student engagement ratings of definitely-on task class behavior was summarized in Table 23. The results of the F tests for any group main effect (g) were not statistically significant ($\alpha = 0.5$). The null hypotheses (H_{01} H_{02} and H_{03}) would, therefore, be accepted and the alternative hypotheses (H_{a1} H_{a2} and H_{a3}) would not be supported. These results implied that the intervention training did not result in significantly higher student engagement ratings on the definitely-on task behavior domain. Even though the overall group means implied possible differences among the groups, the within-groups (error) variation was great enough to negate statistically significant differences.

A summary of the G study and D study analysis by group was presented in Table 24. The series of ANOVAs from which these variance components were derived were summarized in Table E-16 to E-18 in Appendix D. The G study variance components represented the parts of

Table 23
Summary of ANOVA Among Groups on Student Engagement
Estimates of Definitely-On Task Class Behavior

		Group		
		I	II	III
n		10	10	10
Mean		.841	.775	.713
Standard Deviation		.096	.118	.170

Source	df	SS	MS	F
Group (g)	2	.2475	.1238	2.38
Teachers (t):g	27	1.4016	.0519	1.59
Occasions (o):t:g	60	1.9612	.0327	
Total	89	3.6104		

Table 24
Estimated Variance Components from G Study
and D Study on Student Engagement Percentage Scores,
Definitely-On Task Class Behavior, Random Effects Models

Effect	Estimated Variance Components, G-Study			D Study Samp. Freq.	Estimated Variance Components, D-Study		
	Grp. I	Grp. II	Grp. III		Grp. I	Grp. II	Grp. III
t	.0013	.0071	.0109	1	.0013	.0071	.0109
o:t	.0239	.0206	.0535	3	.0080	.0069	.0178
Universe Score Variance:				=	.0013	.0071	.0109
Relative Error Variance:				=	.0080	.0069	.0178
Generalizability Coefficient:				=	.138	.506	.611

the variance of a single teacher's rating on a single item on a single occasion that were uniquely attributable to each separate effect in the table. It was seen that, in general, the G study variance components for the main effects of occasions (o:t) were relatively large in comparison to the main effects for teachers (t). The variance components for the main effects were larger than those for teachers for all three groups. The extremely low variance components for all three groups of teachers (.00, .01, and .01, respectively) was, in part, a reflection of the homogeneity of groups on percent class task behavior ratings. Lastly, the relatively high variance components for o:t suggested that much of the variance was associated with the main effects for occasions within teachers.

The D study variance components were given in the last three columns of Table 24. In contrast to G study variance components, D study components were associated with mean or average teacher ratings for sets of conditions (i.e., number of occasions). The D study design had teachers (random) designated as the objects of measurement and occasion as a random facet. The results were thus generalizable to the infinite universes of occasions and teachers. In this study, the sample of student engagement percentage scores for definitely-on task was one, and the sample of observation occasions was three. The D study variance components in Table 24 revealed the substantial source of variance due to the set of three occasions employed in this study. The occasion variance component was relative higher for Group I and

Group III with the exception of Group II, which was slightly smaller. The universe score for teachers can be considered an "ideal" score and as such was analogous to a "true score" in classical test theory. The universe score variance for teachers reflected the variance of the mean score for teachers over all conditions of the study. The magnitude of the relative error variance at the bottom of Table 24 depended on differences between teacher observed scores and universe scores relative to the population means for observed and universe scores. The variance component for occasions was by far the greatest contributor to the relative error variance for all three groups. The coefficients of generalizability at the bottom of the table were calculated as the ratio of the universe score variance to the expected observed score variance (universe score variance plus relative error variance). The extremely low coefficient value for Group I (.13) was, as mentioned above, a result of the homogeneity of this group. The coefficients for Group II and III, however, were moderate (.50 and .61, respectively), suggesting that the group means for these two groups were relatively dependable, given the conditions of the study. Furthermore, it must be noted that a reduction in the contribution of variance due to occasions to the relative error variance would result in even higher generalizability coefficients. This reduction would result if the number of occasions was increased over the three used in this study.

In sum, the group means on student engagement scores on definitely-on class task behavior apparently suggested that Group I and

Group II were similar in their ratings, with both being rated more favorably than Group III. However, significant sources of variability due to occasions resulted in no statistically significant differences in the group means. In general, the group means were dependable (stable), with the exception of that for Group I. The substantial contribution of occasions to the error variance suggested avenues for improving the generalizability of the results of future studies, which will be presented in Chapter 5, Implications for Further Study.

Probably-On Task Behavior

The ANOVA conducted to detect significant differences between groups for student engagement ratings of probably-on task class behavior was summarized in Table 25. The results of the F tests for any group main effect (g) were not statistically significant ($\alpha = 0.5$). The null hypotheses, (H_{01} H_{02} and H_{03}) therefore, would be accepted and the alternative hypotheses (H_{a1} H_{a2} and H_{a3}) would not be supported. These results implied that the intervention training did not result in higher student engagement ratings on the probably-on task behavior domain. Even though the overall group means implied possible differences among the groups, the within-groups (error) variation was great enough to negate statistically significant differences.

A summary of the G study and D study analysis by group was presented in Table 26. The series of ANOVAs from which these variance

Table 25
Summary of ANOVA Among Groups on Student Engagement
Estimates of Probably On-Task Class Behavior

	Group		
	I	II	III
n	10	10	10
Mean	.084	.111	.086
Standard Deviation	.050	.052	.042

Source	df	SS	MS	F
Groups (g)	2	.0142	.0071	1.03
Teachers (t):g	27	.1870	.0069	.83
Occasions (o):t:g	60	.5004	.0083	
Total	89	.7016		

Table 26
Estimated Variance Components from G Study
and D Study on Student Engagement Percentage Scores,
Probably On-Task Class Behavior, Random Effects Models

Effect	Estimated Variance Components, G-Study			D Study Samp. Freq.	Estimated Variance Components, D-Study		
	Grp. I	Grp. II	Grp. III		Grp. I	Grp. II	Grp. III
t	.0003	.0000	.0000	1	.0003	.0000	.0000
o:t	.0066	.0096	.0088	3	.0022	.0032	.0029
Universe Score Variance:				=	.0003	.0000	.0000
Relative Error Variance:				=	.0022	.0032	.0029
Generalizability Coefficient:				=	.106	.000	.000

components were derived have been summarized in Table E-19 to E-21 in Appendix D. The G study variance components represented the parts of the variance of a single teacher's rating on a single item on a single occasion that was uniquely attributable to each separate effect in the table. It was seen that, in general, the G study variance components for the main effects of occasions (o:t) were relatively large in comparison to the main effects for teachers (t). The variance components for the main effects were larger than those for teachers for all three groups. The extremely low variance components for all three groups of teachers (.00, .00, and .00, respectively) was, in part, a reflection of the homogeneity of groups on percent class task behavior ratings. Lastly, the relatively high variance components for o:t suggested that much of the variance was associated with the main effects for occasions within teachers.

The D study variance components were given in the last three columns of Table 26. In contrast to G study variance components, D study components were associated with mean or average teacher ratings for sets of conditions (i.e., number of occasions). The D study design had teachers (random) designated as the objects of measurement and occasion as a random facet. The results were thus generalizable to the infinite universes of occasions and teachers. In this study, the sample of student engagement percentage scores for probably-on task was one, and the sample of observation occasions was three. The D study variance components in Table 26 revealed the substantial source of

variance due to the set of three occasions employed in this study. The occasion variance component was relatively higher for Group II and Group III with the exception of Group I, which was slightly smaller. The universe score for teachers could be considered an "ideal" score and as such was analogous to a "true score" in classical test theory. The universe score variance for teachers reflected the variance of the mean score for teachers over all conditions for the study. The magnitude of the relative error variance at the bottom of Table 26 depended on differences between teacher observed scores and universe scores relative to the population means for observed and universe scores. The variance component for occasions was by far the greatest contributor to the relative error variance for all three groups. The coefficients of generalizability at the bottom of the table were calculated as the ratio of the universe score variance to the expected observed score variance (universe score variance plus relative error variance). The extremely low coefficient value for all three groups (.11, .00, and .00 respectively) was, as mentioned above, a result of the homogeneity of this group. These extremely low coefficients suggest that the group means for these three groups were not relatively dependable, given the conditions of the study. Furthermore, it must be noted that a reduction in the contribution of variance, due to occasions to the relative error variance, would result in higher generalizability coefficients. This reduction would result if the number of occasions was increased over the three used in this study.

In sum, the group means on student engagement scores on probably-on class task behavior apparently suggested that Group I and Group III were similar in their ratings, with Group II being rated more favorably than Group I and Group III. However, significant sources of variability due to occasions resulted in no statistically significant differences in the group means. In general, the group means were not considered dependable (stable). The substantial contribution of occasions to the error variance suggested avenues for improving the generalizability of the results of future studies, as will be presented in Chapter 5, Implications for Further Study.

Off-Task Behavior

The ANOVA for student engagement ratings of off-task class behavior was summarized in Table 27. The results of the F tests for off-task behavior were significant for group main effect (g) and teacher main effect (t):g ($\alpha = .05$). The null hypothesis (H_{02}) would, therefore, be rejected and the alternative hypothesis (H_{a2}) would be supported. However, no significant differences were found among teachers in group I and group III. Therefore, the null hypotheses (H_{01} and H_{03}) would be accepted and the alternative hypotheses (H_{a1} and H_{a3}) would be rejected. The Newman-Keuls test was used as a post hoc analysis to further check for significant results. The main effect of (g) and (to):g proved significant. A summary of the G study and D study analysis by group was presented in Table 28. The series of ANOVAs from which these variance components were derived were

Table 27
Summary of ANOVA Among Groups on Student Engagement Estimates
of Off-Task Class Behavior

	Group		
	I	II	III
n	10	10	10
Mean	.080	.111	.204
Standard Deviation	.054	.112	.144

Source	df	SS	MS	F
Group (g)	2	.2496	.1248	3.46*
Teachers (t):g	27	.9725	.0360	2.11*
Occasions (o):t:g	60	1.0237	.0170	
Total	89			

*p $\leq$.05 , Newman-Keuls test

Table 28
 Estimated Variance Components from G Study
 and D Study on Student Engagement Percentage Scores,
 Off-Task Class Behavior, Random Effects Models

Effect	Estimated Variance Components, G-Study			D Study Samp. Freq.	Estimated Variance Components, D-Study		
	Grp. I	Grp. II	Grp. III		Grp. I	Grp. II	Grp. III
t	.0003	.0094	.0094	1	.0003	.0094	.0094
o:t	.0081	.0093	.0338	3	.0027	.0031	.0113
Universe Score Variance:				=	.0003	.0094	.0094
Relative Error Variance:				=	.0027	.0031	.0113
Generalizability Coefficient:				=	.084	.751	.454

summarized in Table E-22 to E-24 in Appendix D. The G study variance components represented the parts of the variance of a single teacher's rating on a single item on a single occasion that were uniquely attributable to each separate effect in the table. It was seen that, in general, the G study variance components for the main effects of occasions (o:t) were relatively larger or nearly as large in comparison to the main effects for teachers (t). The variance components for the main effects were larger than those for teachers for all three groups. The extremely low variance components for all three groups of teachers (.00, .00, and .00, respectively) was, in part, a reflection of the homogeneity of groups on percent class task behavior ratings. Lastly, the relatively high variance components for o:t suggested that much of the variance was associated with the main effects for occasions within teachers.

The D study variance components were given in the last three columns of Table 28. In contrast to G study variance components, D study components were associated with mean or average teacher ratings for sets of conditions (i.e., number of occasions). The D study design had teachers (random) designated as the objects of measurement and occasion as a random facet. The results were thus generalizable to the infinite universes of occasions and teachers. In this study, the sample of student engagement percent scores for off-task was one, and the sample of observation occasions was three. The D study variance components in Table 28 revealed the substantial source of variance due to the set of three occasions employed in this study. The occasion

variance component was relatively higher for Group I and Group III with the exception of Group II which was extremely smaller. The universe score for teachers could be considered an "ideal" score and as such was analogous to a "true score" in classical test theory. The universe score variance for teachers reflected the variance of the mean score for teachers over all conditions of the study. The magnitude of the relative error variance at the bottom of Table 28 depended on differences between teacher observed scores and universe scores relative to the population means for observed and universe scores. The variance component for occasions was by far the greatest contributor to the relative error variance for all three groups. The coefficients of generalizability at the bottom of the table were calculated as the ratio of the universe score variance to the expected observed score variance (universe score variance plus relative error variance). The extremely low coefficient value for Group I (.08) was, as mentioned above, a result of the homogeneity of this group. The coefficients for Groups II and III, however, were moderate (.75 and .45, respectively), suggesting that the group means for these two groups were relatively dependable, given the conditions of the study. Furthermore, it must be noted that a reduction in the contribution of variance due to occasions to the relative error variance would result in even higher generalizability coefficients. This reduction would result if the number of occasions was increased over the three used in this study.

In sum, the group means on student engagement scores on off-task behavior apparently suggested that Group I and Group II were definitely rated more favorably than Group III (the control group). Thus, significant sources of variability due to occasions resulted in statistically significant differences in the group means. In general, the group means were dependable (stable), with the exception of that for Group I. The substantial contribution of occasions to the error variance suggested avenues for improving the generalizability of the results of future studies.

Conference Report Forms

Three sub-hypotheses were posed to investigate the differences among inductee teachers on observed classroom management behaviors. They were as follows:

Hypothesis 1: Group I inductee teachers will be rated more favorably than Group II teachers on conference report forms.

$$(H_{01}: \mu^I = \mu^{II})$$

Hypothesis 2. Group I inductee teachers will be rated more favorably than Group III on conference report forms. ($H_{02}: \mu^I = \mu^{III}$)

Hypothesis 3. Group II inductee teachers will be rated more favorably than Group III on conference report forms. ($H_{03}: \mu^{II} = \mu^{III}$)

A chi-square was used as the analysis procedure for the conference report form (see Table 29). Results indicated that the teachers in

TABLE 29
Frequencies of Classroom Problems
Discussed During Mentor-Inductee Conferences,
By Groups and Relevance to Classroom Management

Group	Classroom Management		Total
	Related	Unrelated	
I	42	10	52
II	31	10	41
III	27	17	44
Total	100	37	137

Note. Chi-square analysis for Group/Problem association significant at $p \leq .10$.

Group I (MI) pairs discussed more classroom management problems than did Group II (M only), and both discussed more related problems than did Group III (neither MI). Of the 52 problems discussed by the Group I M/I pairs, 81 percent ($n=42$) were related to classroom management problems. Of the 41 problems discussed by the Group II M/I pairs, 76 percent ($n=31$) were related to classroom management problems. Of the 44 problems discussed by the Group III M/I pairs, 61 percent ($n=27$) were related to classroom management problems. A total of 137 management problems were discussed by all three groups, with 73 percent ($n=100$) of these related to classroom management. In sum, the degree of discussion of classroom management problems during the mentor/inductee conferences was associated with the experimental treatment of the group to which the mentor/inductee pairs belongs, with the experimental Group II discussing more management problems than did Group III (the control group) but fewer problems than did Group I.

In regard to the number of classroom management related problems discussed, the computed chi-square was statistically significant at the .10 level. Therefore, the alternative hypotheses (H_1 , H_2 and H_3) were supported and the null hypotheses (Ho_1 , Ho_2 and Ho_3) were rejected.

Summary

In sum, the ANOVA (analysis of variance) conducted to detect for significant differences between the experimental groups (Group I and Group II) and the control group (Group III), on the classroom ratings

were not found to be statistically significantly different ($\alpha = .05$), although group means varied in expected directions. However, significant differences were found ($\alpha = .05$) in the student engagement ratings of off-task behavior between the trained teachers and untrained teachers. These results implied that the training did not result in higher classroom ratings of teacher behaviors, however, the training did result in higher off-task student engagement ratings.

The chi-square conducted to detect for significant differences between the experimental groups and the control groups were found to be statistically significant ($\alpha = .10$), indicating that trained teachers discussed more classroom management problems than untrained teachers. These results implied that mentoring was an effective way to assist beginning teachers during the induction phase of teaching.

Chapter V

SUMMARY, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

Introduction

Chapter five will include a summary of the study, a statement of conclusions as well as implications and recommendations for further research.

Educational researchers have concurred that teaching is a complex and challenging activity. At the same time, persistent demands have continued to be heard for improvements in the quality of teaching. Interventions, targeted to help beginning teachers deal with the complexities of teaching and become effective practitioners, have been and continues to be an urgent need. Although assorted intervention strategies are underway at all stages of professional development, a focus on helping beginning teachers at their point of entry into the profession has emerged as an exigent concern.

Recent attention to interventions with beginning teachers points toward various ways teachers are inducted into professional practice as a practical concern. The "sink or swim" approach to induction, which has been all too common, is not the most effective way to introduce beginning teachers into the profession. Beginning teachers need professional assistance. In an attempt to provide such assistance, studies have been conducted on and continue to be conducted on the problems of beginning teachers. Concerns of beginning teachers appear to be clustered. Classroom management has been one of several concerns. Consequently, various induction programs have

characteristically focused on classroom management as an initial concern of beginning teachers. The classroom management content for the treatment in this study included (a) planning rules and procedures for general classroom organization, (b) maintaining a systematic approach through monitoring student academic work and behavior, and (c) providing feedback to students about performance.

More recently, questions have emerged about how to translate the research-based content on classroom management and other skill needs for use by beginning teachers in ways that would inform the content of induction programs. Mentoring, a system in which experienced teachers and beginning teachers work together to improve instructional practices, has been identified as a promising strategy for organizing induction programs and for translating research-based knowledge to beginning teachers. An experienced teacher serving in a mentoring role for a beginning teacher, and providing support in the areas of improving classroom management, has been an aspect of the induction process that has received insufficient research investigation.

Institutions for higher education, state departments of education, professional organizations, and local school districts need to support research investigations to help beginning teachers become more effective classroom managers. The successful completion of a well designed induction program should focus on the needs of the mentor and the beginning teachers. Therefore, this study, a strategy for translating classroom management research into useful information for

mentor and inductee teachers, is a way of assuring educational administrators that induction programs are effective ways to aid beginning teachers.

Summary of Study

This dissertation was an experimental study. The posttest-only control group design was used to fulfill the two major purposes of the study. The first purpose was to test the effectiveness of a program in classroom management intervention training which was designed to help beginning (inductee) teachers improve their classroom management practices. The second purpose was to determine if a mentoring relationship was effective in helping beginning teachers cope with classroom management problems. The following general hypothesis guided the study: There will be differences among inductee teachers on observed classroom management behaviors as a result of the classroom management intervention.

Sub-hypotheses:

Hypothesis 1. Group I (mentors and inductees trained) inductee teachers will be rated more favorably than Group II (mentors trained alone) teachers on: (a) instructional management; (b) rules and procedures; (c) meeting student concerns; (d) managing pupil behavior; (e) student misbehavior; (f) student engagement ratings; and (g) conference report forms.

Hypothesis 2. Group I inductee teachers will be rated more favorably than Group III (mentors and inductees not trained) teachers on: (a) instructional management; (b) rules and procedures; (c) meeting student concerns; (d) managing pupil behavior; (e) student misbehavior; (f) student engagement ratings; and (g) conference report forms.

Hypothesis 3. Group II inductee teachers will be rated more favorably than Group III teachers on: (a) instructional management; (b) rules and procedures; (c) meeting student concerns; (d) managing pupil behavior; (e) student misbehavior; (f) student engagement ratings; and (g) conference report forms.

Research literature reviewed for this study included studies of the problems of beginning teachers, examinations of existing structures in professional teacher development, and intervention strategies designed to help beginning teachers. Examples of intervention strategies included: induction programs, mentoring processes, classroom management training studies, and theory on the measurement of teaching behaviors. In brief, this review of literature suggested that beginning teachers face complex problems during the initial years of teaching, and that currently existing professional development structures in teacher education were not sufficient for preparing beginning teachers. Evidence was provided that selected interventions, shown to be successful in other settings, could have merit in assisting beginning teachers through their induction into the profession.

This study was a part of the larger Franklin County/Ohio State University Induction Project. This federally funded project is a multi-year effort to use research knowledge to improve teacher education. An accessible population of teachers representing nine school buildings in a single school district was available for participation in this dissertation study. Mentor and inductee teachers were selected by their principals according to grade level and subject areas prior to this dissertation study to work together in the same building. The researcher then randomly stratified the paired mentor and inductee teachers by grade level and assignment and then assigned them to three treatment conditions.

The experimental treatment consisted of a program of classroom management intervention training delivered in a workshop format at a mid-point in the school year. Two full days of training were delivered in March, 1986. Differences in treatment conditions were the presence or absence of the inductee and/or mentor teachers in the training workshops. Thus, the research design permitted description of both the effects of intervention training as well as the different levels of exposure to the training. For one group, the effects of training the mentor/inductee pair were observed, and for another group, the effects of training the mentors only were observed. In a third group, neither mentor nor inductee teachers received training. Mentor and inductee teachers submitted a set of conference report forms as a way of

documenting mentoring conferences. These were analyzed to assess the extent of classroom management problems discussed in the mentoring conferences.

School district personnel were trained to serve as observers in this study. Four classroom observations of each inductee's teacher teaching performance, each approximately 40 minutes in length, were conducted for each of the 35 inductee teachers. Instrumentation included a classroom rating scale, narrative notes, and student engagement ratings. Mentoring conference report forms were used by the teachers to report topics discussed in five conferences. These report forms were collected at two week intervals during the data collection period to authenticate the occurrence of the mentoring process.

An analysis of variance (ANOVA) was performed to examine group effects separately for each of five domains in the classroom rating scale instrument (instructional management, rules and procedures, meeting student concerns, managing pupil behavior, and student misbehavior). Dependability of observers' ratings was examined using generalizability theory. ANOVA and generalizability theory were also applied for analysis of student engagement ratings collected at 10 minute intervals during each lesson observation. Conference report forms were analyzed to assess frequencies of occurrence of topics related to classroom management. Chi-square analysis was applied to examine association between treatment group and problem type.

Conclusions

Conclusions from this research are discussed below relative to each of the research hypotheses stated in the summary of the study.

Hypothesis 1. Group I inductee teachers will be rated more favorably than Group II teachers on: (a) instructional management; (b) rules and procedures; (c) meeting student concerns; (d) managing pupil behavior; (e) student misbehavior; (f) student engagement ratings; and (g) conference report forms.

Hypothesis 1 was posited to investigate the differences among inductee teachers on observed classroom management behaviors when both inductee and mentor had received training (Group I) and when only mentors had been trained (Group II). In regard to instructional management, rules and procedures, meeting student concerns, managing pupil behaviors, and student misbehaviors, no significant differences were found between the two groups of inductee teachers, although group means varied in the expected direction. In general, the generalizability (G) study indicated that group means were dependable (stable). The decision (D) study indicated substantial contribution of occasion and/or item to the error variance. This suggested that if the number of occasions and/or items were increased the generalizability coefficient would increase, thus improving the generalizability of the results for future studies.

In regard to student engagement, comparisons revealed no statistically significant differences between the two experimental

groups (Group I and II) in percentage of definitely-on task, probably-on task and off-task behaviors. In general, the generalizability (G) study indicated that group means were dependable (stable). The decision (D) study indicated substantial contribution of occasions and/or item to the error variance. This suggested that if the number of occasions were increased, the generalizability coefficient would increase, thus improving the generalizability of the results for future studies.

In regard to the conference report forms, comparisons revealed no statistically significant differences between the two experimental groups (Groups I and II) in the number of classroom management problems discussed during the mentor/inductee conferences, which suggested minimal advantages for training mentor/inductee pairs as opposed to training mentors only, at least in regard to the frequency of classroom management issues discussed in mentoring conferences.

Hypothesis 2. Group I inductee teachers will be rated more favorably than Group III teachers on: (a) instructional management; (b) rules and procedures; (c) meeting student concerns; (d) managing pupil behavior; (e) student misbehavior; (f) student engagement ratings; and (g) conference report forms.

Hypothesis 2 was posited to investigate the differences among inductee teachers on observed classroom management behaviors when both mentor and inductee teachers received training (Group I) and when

neither mentor nor inductee teachers had been trained (Group III). In regard to instructional management, rules and procedures, meeting student concerns, managing pupil behaviors, and student misbehaviors, group means differed in expected directions. No significant differences were found, however, between the two groups of inductee teachers. In general, the generalizability (G) study indicated that group means were dependable (stable). The decision (D) study indicated substantial contribution of occasions and/or item to the error variance. Again, this suggested that if the number of occasions and/or items were increased, the generalizability coefficient would increase, thus improving the generalizability of the results for future studies.

In regard to student engagement, comparisons revealed no statistically significant differences between the experimental group and the control group (Groups I and III) in percentage of definitely-on task and probably-on task behaviors. However, the control group teachers had significantly more off-task behaviors in their classroom than experimental (Group I) teachers. In general, the generalizability (G) study indicated that group means were dependable (stable). The decision (D) study indicated substantial contribution of occasions to the error variance. This suggested that if the number of occasions were increased, the generalizability coefficient would increase, thus improving the generalizability of the results for future studies.

In regard to conference report forms, comparisons revealed statistically significant differences between the experimental group and the control group (Groups I and II) in the number of classroom

management problems discussed during the mentor/inductee conferences, which suggested that mentor/inductee pairs who were trained together discuss classroom management issues more frequently than untrained mentor/inductee pairs.

Hypothesis 3. Group II inductee teachers will be rated more favorably than Group III teachers on: (a) instructional management; (b) rules and procedures; (c) meeting student concerns; (d) managing pupil behavior; (e) student misbehavior; (f) student engagement ratings; and (g) conference report forms.

Hypothesis 3 was posited to investigate the differences among inductee teachers on observed classroom management behaviors when only mentor teachers received training (Group II) and when neither mentor nor inductee teachers had been trained (Group III). In regard to instructional management, rules and procedures, meeting student concerns, managing pupil behaviors, and student misbehaviors, no significant differences were found between the two groups of inductee teachers. In general, the generalizability (G) study indicated that group means were dependable (stable). The decision (D) study indicated substantial contribution of occasions and/or item to the error variance. This suggested that if the number of occasions and/or items were increased, the generalizability coefficient would increase, thus improving the generalizability of the results for future studies.

In regard to student engagement, comparisons revealed no statistically significant differences between the experimental group

and the control group (Groups II and III) in percentage of definitely-on task and probably-on task behaviors. However, off-task behaviors resulted in statistically significant differences in the two group means. Means varied in the expected direction, indicating untrained teachers had more off-task behaviors than mentor-trained teachers. In general, the generalizability (G) study indicated that group means were dependable (stable). The decision (D) study indicated substantial contribution of occasions to the error variance, which suggested that if the number of occasions were increased, the generalizability coefficient would increase, thus improving the generalizability of the results for future studies.

Relative to conference report forms, comparisons revealed statistically significant differences between the experimental group and the control group (Groups II and III) in the number of classroom management problems discussed during the mentor/inductee conferences. This finding suggested that mentor-trained pairs discuss classroom management issues more frequently than untrained mentor/inductee pairs. Training of mentors influenced the content of mentoring conferences.

Implications for Practice

Findings in this study can be examined for their appropriateness and usefulness in designing intervention programs for the induction stage of professional development. This study examined the relative effects of classroom management training and mentoring relationships on

the observed classroom performance of beginning teachers. The implications outlined in this section suggest specific issues that ought to be considered in designing induction programs in which classroom management and mentoring are part of the training content.

The effectiveness of the management training workshops has been consistently documented in earlier studies (Anderson, et al., 1979; Brophy and Evertson, 1976; Evertson et al., 1980; Evertson et al., 1983; Evertson et al., 1985). However, all of these earlier studies have been preventative in nature. Training was conducted prior to the start of the school year. In this study, the effectiveness of an intervention model of classroom management training has been tested during the school year. Training was conducted at a mid-point in the school year (March). Findings using the intervention model revealed, in general, that trained teachers rated higher than untrained teachers, although differences were not significant. Significant differences, also favoring the trained teachers, were identified on student engagement ratings in the category of off-task behaviors. That is, significantly fewer students in trained teachers' classrooms demonstrated off-task behaviors than in untrained teachers' classrooms. Hence, the results were mixed.

Possibly, intervention workshops delivered in March came too late in the school year to realize significant treatment effects. Management procedures and expectations for student behavior may have been firmly established, and therefore, were not amenable to change.

Training conducted prior to the mid-point of the school year may be advisable. In addition, the length of the training and the components of the training might be revised, too. However, trained teachers were, at least, able to reduce the percentage of off-task behaviors in their classrooms.

The definition of beginning teachers used in the Induction Project may also have influenced outcomes in this study. Beginning teachers, as defined in the project, included first year teachers, teachers returning after a leave of absence, teachers changing grade level or subject matter, and teachers changing building or school district. These teachers may have resented being categorized as inductee teachers and may not have been receptive to the classroom management training. Careful consideration needs to be given to the various prior experiences of "beginning" teachers when broad definitions are used in induction programs. Additional factors influencing outcomes in this study may have been (a) that principals needed to be more closely involved in the classroom management intervention training, or (b) that due to lack of release time, teachers did not have adequate opportunities to share the training in the mentoring conferences.

The second primary focus of this study was the relative effects of the mentor/inductee relationships on the inductees' classroom performance. In contrast to the number of studies supporting the effects of the classroom management training, very little empirical support was available about the effects of mentoring on teachers'

classroom behaviors. This study was, at least, one of the first to test the effects of mentoring within an experimental design.

Although effects of classroom management intervention training were identified (student engagement ratings), the presence or absence of mentor teachers in the training did not contribute to differences in the observed classroom management behaviors of their paired inductee teachers. Perhaps, mentor/inductee teachers who were trained as pairs did not perceive the need to share as much of the knowledge base as did mentors who were trained alone; however, these differences were not significant. Findings indicated that the mentor teachers were a vital component in transferring the knowledge base of classroom management principles; however, inductees may not need to be present during the training. This researcher believes it is also probable that mentoring is more successful on a one-to-one ratio. This researcher also thinks that pairing a mentor teacher with an inductee teacher is important because they learn to share the same knowledge base and known expectations. However, it may be cost effective for a school district implementing an induction program to train only the mentors.

Findings reported in the conference report forms which related to the mentoring relationships were statistically significant between the trained and untrained inductees. It is possible that mentor/inductee pairs were able to talk about classroom management problems, as reflected in their conference report forms, even though their observed classroom management practices did not show significant differences.

It is also possible that reflection about classroom management processes needs to be more systematic, structured, and more goal-directed than the conference report form permitted. Additionally, if reflection is not goal-directed or systematic, it would make little difference whether the reflection was accomplished by the inductee teacher alone or in the company of a mentor. The difference between trained and untrained pairs on conference report forms does suggest that a shared knowledge base, introduced in the training, does get discussed in the conferences. For the untrained pairs, there may have been little of substance for discussion.

Recommendations for Further Research

Research to increase the effectiveness of classroom management intervention training, where groups of paired mentor and inductee teachers are working together to improve classroom management performances, is highly recommended. Based on the findings and limitations of this study, the following specific recommendations for further research are offered:

1. Mentor and inductee teachers need to be involved in the planning of research on classroom management intervention training. This is based on the findings from the review of literature on mentoring and the summative evaluations from the Induction Project.

2. Principals of the mentor and inductee pairs need to participate in the classroom management workshop, so that they better understand both the training and the research approach. This is based on summative evaluations from the Induction Project and face-to-face interviews with teachers after completion of the research study.
3. Classroom management intervention training needs to be conducted earlier in the year, perhaps after the traditional holiday Christmas break instead of at a spring break time of year. This recommendation is based on the fact that earlier studies of classroom management training, in which clear cases of the superior effects of training are well documented, were designed to be implemented at earlier times in the school year, e.g., beginning of the school year or the Christmas holiday break.
4. The classroom management workshop training time should be increased from two days in length to two and one-half days or three days in length. This is based on the fact that earlier studies of classroom management, in which clear cases of the superior effects of training are well documented, had longer training sessions. Thus, longer training sessions would have allowed more instructional time as well as application of the content covered.
5. The classroom management workshop should include training in the use of the conference report forms, a recommendation

which is based on the fact that significant differences were found in the frequencies of classroom management problems discussed on the conference report forms. Thus, it is thought that time should be allotted during the classroom management training workshop to train teachers in the use of the conference report forms. This training might help mentor and inductee pairs as they complete the form during conference sessions.

6. The nature of the content of the classroom management intervention training should be revised to be more closely in line with the time of the intervention and the needs of the beginning teachers. More focus on alternative approaches to correcting inappropriate student behaviors may be warranted. This recommendation is based on the fact that effects on student engagement rates were identified. These effects deserve further exploration.
7. Mentor and inductee teachers need to be grouped according to their degree of newness, (first year teachers, teachers returning after a leave of absence, teachers changing district, building, grade level and/or subject matter). After such grouping, the effects of the classroom management training could be examined by degrees of newness. In addition, a correlational study might be useful to determine if the degree of newness is

related to the effectiveness of the classroom management intervention. This recommendation is based on the results of the qualitative assessments conducted on all the participants in the Franklin County/OSU Induction Project. Findings indicated that beginning teachers all experienced some type of trauma. Differences were found in the degree of newness of the teachers. A first year teacher's problems differed from those of a teacher who was transferring from another building and/or district.

8. Due to findings that groups differed in expected directions, although not at a significant level, replications of the design of study should be done to test the effect of mentoring relationships on inductees' classroom performance.
9. The number of classroom observations should be increased from four per teacher to six per teacher. This recommendation is based on findings of the Decision study, within the Generalizability study, that shows increasing the number of occasions of observation would increase the reliability of the findings.
10. The same observers should rate the same teachers (observer 1 should rate teacher 1 all six times). This recommendation is based on the findings of the descriptive statistics where the ratings of 1 or 2 of the raters were markedly different.

11. The classroom management observation should be conducted on the same day of the week, at the same time of day, during the teaching of the same subject matter. Again, this recommendation is based on the examination of the data, where in some observations the rating tended to be markedly different from observation to observation. Therefore, this researcher thought that this variability in ratings and occasions could be improved by being consistent in scheduling the observation time.
12. The number of teachers in the study should be increased and perhaps the population expanded to include an inner city school as well as a rural or suburban school. This recommendation is based on the fact that only one school district (suburban) was used in this study. This researcher believes that including other school districts would increase the population of teachers for the study, and different school settings would increase the generalizability of the study to other populations.
13. In any future pre-test and posttest designs, classroom observations should be conducted at the outset to assess classroom management conditions (levels of student engagement) prior to the intervention training. Although teachers were randomly assigned to treatment conditions, early observations might provide an extra level of confidence in the random assignments. This

recommendation is based on the fact that significant differences were not found as expected and the degrees of newness need to be accounted for prior to the beginning of the study.

14. The classroom rating scale deserves attention. Scaling revisions would be useful in improving data management; this finding is based on the difficulty encountered by this researcher in managing the data during the analysis.
15. The narrative notes that were written on each observation should be analyzed as enrichment data that would give further insights into the effectiveness of the classroom management behaviors of the inductee teachers. This recommendation is based on the fact that findings were in the expected directions and approaching significant differences; therefore, it is thought that a qualitative data analysis could possibly enrich the quantitative findings.

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APPENDIX A
FRANKLIN COUNTY/OSU INDUCTION
PROJECT PLANNING MATERIALS

Franklin County / OSU

Needs Assessment for

Beginning Teachers

This instrument was developed by Brenda Stallion, Graduate Research Assistant, Ohio State University in conjunction with the Franklin County Schools/OSU Induction Program, funded by NIE grant contract #400-85-1043. Use of this instrument must be by permission of program director, Dr. Nancy L. Zimpher, College of Education, Department of Policy and Leadership, The Ohio State University, 121 Ramseyer Hall, 29 W. Woodruff Ave., Columbus, Ohio 43210

**NEEDS ASSESSMENT FOR BEGINNING TEACHERS
FRANKLIN COUNTY/OSU PILOT INSTRUMENT**

Section I

DIRECTIONS FOR RECORDING RESPONSES ON SURVEY:

Please complete the following 25 needs statements. Note that the responses range from one extreme example of behavior to another. Fill out the needs assessment as follows:

- a. Read each statement carefully.
- b. Circle the responses most appropriate for a given time.
- c. Note that there are two responses that pertain to each item. Make sure both responses are completed.
- d. Please read the following example.

As a beginning teacher.....

This induction program is unnecessary and threatening to me	Between 1 & 3	This induction program seems to have potential for helping me	Between 3 & 5	This induction program is great and offers me a change for personal & professional growth & development
1	2	3	4	
<div style="display: flex; justify-content: space-between;"> Here is where I perceive myself now 1 2 3 4 </div> <div style="display: flex; justify-content: space-between;"> Here is where I want to be 1 2 3 4 </div>				

NEEDS ASSESSMENT FOR BEGINNING TEACHERS
FRANKLIN COUNTY/OSU PILOT INSTRUMENT

1. As a beginning teacher.....

I find lesson plans are difficult to write & organize	1	between 1 & 3	2	I find lesson plans are somewhat problematic to prepare & follow	3	between 3 & 5	4	My lesson plans are detailed and easy for a substitute to teach	5
Here is where I perceive myself now								1 2 3 4 5	
Here is where I want to be								1 2 3 4 5	

2. As a beginning teacher.....

I have knowledge of few instructional resources & class materials available	1	between 1 & 3	2	I have knowledge of several resources teachers use when teaching their classes	3	between 3 & 5	4	I have knowledge of a variety of instructional resources & class materials available to the program	5
Here is where I perceive myself now								1 2 3 4 5	
Here is where I want to be								1 2 3 4 5	

3. As a beginning teacher.....

I know few activities for motivating students	1	between 1 & 3	2	I know some motivating activities	3	between 3 & 5	4	I am familiar with many activities that get students involved & motivated	5
Here is where I perceive myself now								1 2 3 4 5	
Here is where I want to be								1 2 3 4 5	

4. As a beginning teacher.....

My classroom discipline strategies do not seem to produce the results I anticipated	between 1 & 3	My classroom discipline strategies seem reasonably effective and comfortable for me to use	between 3 & 5	My classroom discipline strategies seem very effective & complement my teaching & personality style
1	2	3	4	5

Here is where I perceive myself now 1 2 3 4 5
Here is where I want to be 1 2 3 4 5

5. As a beginning teacher.....

My textbooks and workbooks are not appropriate for the grade level I teach and are out-of-date	between 1 & 3	My textbooks and workbooks need some revisions	between 3 & 5	My textbooks & workbooks are carefully selected & appropriate for the grade level
1	2	3	4	5

Here is where I perceive myself now 1 2 3 4 5
Here is where I want to be 1 2 3 4 5

6. As a beginning teacher.....

I am unfamiliar with a graded course	between 1 & 3	Graded courses of study are available to me somewhere in the building	between 3 & 5	Graded courses of study are used to plan my courses
1	2	3	4	5

Here is where I perceive myself now 1 2 3 4 5
Here is where I want to be 1 2 3 4 5

7. As a beginning teacher.....

When dealing with individual differences I rarely consider them	between 1 & 3	When dealing with individual differences I help students after lectures	between 3 & 5	When dealing with individual differences I plan for the whole class while I help individuals
1	2	3	4	5

Here is where I perceive myself now 1 2 3 4 5
Here is where I want to be 1 2 3 4 5

8. As a beginning teacher.....

When I need guidance and support I don't feel comfortable asking other teachers & administrators	1	between 1 & 3	2	When I need guidance and support I talk to friends outside the field of education	3	between 3 & 5	4	When I need guidance and support I feel secure in asking for help from teachers & administrators	5
Here is where I perceive myself now								1 2 3 4 5	
Here is where I want to be								1 2 3 4 5	

9. As a beginning teacher.....

When dealing with my colleagues they treat me like a student teacher	1	between 1 & 3	2	When dealing with my colleagues they are unsure of my professional ability, but supportive	3	between 3 & 5	4	When dealing with my colleagues they treat me as a professional teacher & consider me their equal	5
Here is where I perceive myself now								1 2 3 4 5	
Here is where I want to be								1 2 3 4 5	

10. As a beginning teacher.....

I feel my teaching load is impossible and hinders my ability to teach well	1	between 1 & 3	2	I feel my teaching load is reasonable but allows me little time to plan new activities	3	between 3 & 5	4	I feel my teaching load is ideal & allows me opportunities to plan for individual areas	5
Here is where I perceive myself now								1 2 3 4 5	
Here is where I want to be								1 2 3 4 5	

11. As a beginning teacher.....

I feel worried I might say the wrong thing	1	between 1 & 3	2	I call the parent when there is a problem	3	between 3 & 5	4	I frequently contact the home & inform parents of their child's progress	5
Here is where I perceive myself now								1 2 3 4 5	

12. As a beginning teacher.....

When teaching I lecture the class each day & put some ideas on the board	between 1 & 3	When teaching I occasionally change routines so the class does not get bored	between 3 & 5	When teaching I do a variety of activities in small groups & as a class
1	2	3	4	5

Here is where I perceive myself now 1 2 3 4 5
 Here is where I want to be 1 2 3 4 5

13. As a beginning teacher.....

When discipling students I warn & threaten students frequently	between 1 & 3	When discipling students I follow through with my class rules when students misbehave	between 3 & 5	When disciplining students I follow through on the rules & explain the consequences for good & bad behavior
1	2	3	4	5

Here is where I perceive myself now 1 2 3 4 5
 Here is where I want to be 1 2 3 4 5

14. As a beginning teacher.....

I have discovered that my students do not seem to understand my lesson after I present it	between 1 & 3	I have discovered that my students seem interested but sometimes have difficulty in following my lesson	between 3 & 5	I have discovered that my students follow directions & work actively after my lesson
1	2	3	4	5

Here is where I perceive myself now 1 2 3 4 5
 Here is where I want to be 1 2 3 4 5

15. As a beginning teacher.....

I feel my students are noisy when working with each other	between 1 & 3	I feel my students are noisy but seem like they are working together	between 3 & 5	I feel my students work cooperatively and are well-behaved during group work
1	2	3	4	5

Here is where I perceive myself now 1 2 3 4 5
 Here is where I want to be 1 2 3 4 5

16. As a beginning teacher.....

I find my school equipment non-existent or does not work well	between 1 & 3	My school equipment works well but is not always available	between 3 & 5	My school equipment is available within the room & always works properly
<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>	<input type="text" value="4"/>	<input type="text" value="5"/>

Here is where I perceive myself now 1 2 3 4 5
 Here is where I want to be 1 2 3 4 5

17. As a beginning teacher.....

When dealing with special education students I feel awkward & have difficulty understanding their needs.	between 1 & 3	I would like to help special education students but have problems in dealing with them in classroom situations	between 3 & 5	I work cooperatively with the special education teachers & can diagnose the needs of these students
<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>	<input type="text" value="4"/>	<input type="text" value="5"/>

Here is where I perceive myself now 1 2 3 4 5
 Here is where I want to be 1 2 3 4 5

18. As a beginning teacher.....

When I communicate with my principal I feel unsure of his/her expectations and feel insecure with him/her	between 1 & 3	When communicating with my principal I ask for advice and support frequently	between 3 & 5	When communicating with my principal I understand the goals and expectations she/he has for me & recognize his/her support
<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>	<input type="text" value="4"/>	<input type="text" value="5"/>

Here is where I perceive myself now 1 2 3 4 5
 Here is where I want to be 1 2 3 4 5

19. As a beginning teacher.....

In transferring from one class activity to the next is frequently confusing & noisy	between 1 & 3	In transferring from one class activity to the next is orderly but takes too long for my students to get ready	between 3 & 5	In transferring from one class activity to the next it runs smoothly & orderly
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Here is where I perceive myself now 1 2 3 4 5
 Here is where I want to be 1 2 3 4 5

20. As a beginning teacher.....

When evaluating my students I feel unsure about how to judge their progress	between 1 & 3	When evaluating my students I administer many tests and quizzes	between 3 & 5	When evaluating my students I provide frequent feedback with comments on assignments and recently graded tests
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Here is where I perceive myself now 1 2 3 4 5
 Here is where I want to be 1 2 3 4 5

21. As a beginning teacher.....

In the classroom I have difficulty getting students involved in classroom discussion	between 1 & 3	In the classroom I invite student responses during lecture	between 3 & 5	In the classroom I ask students to assist in planning how they will learn the curriculum content
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Here is where I perceive myself now 1 2 3 4 5
 Here is where I want to be 1 2 3 4 5

22. As a beginning teacher.....

I see community involvement as a time consuming endeavor	between 1 & 3	I see community involvement as a possibility for developing community/school relationships	between 3 & 5	I see community involvement as the ideal cooperative effort in which both the school and community can benefit
<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>	<input type="text" value="4"/>	<input type="text" value="5"/>

Here is where I perceive myself now 1 2 3 4 5
 Here is where I want to be 1 2 3 4 5

23. As a beginning teacher.....

I lack knowledge in developing a good test	between 1 & 3	I borrow examples of evaluation instruments from other resources and teachers	between 3 & 5	I can design tests that specifically address the objectives covered in class
<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>	<input type="text" value="4"/>	<input type="text" value="5"/>

Here is where I perceive myself now 1 2 3 4 5
 Here is where I want to be 1 2 3 4 5

24. As a beginning teacher.....

I never have routine forms and clerical work completed on time	between 1 & 3	I ask for help as I encounter problems in completing routine forms and clerical work	between 3 & 5	I complete routine forms and clerical responsibilities on time and without any assistance
<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>	<input type="text" value="4"/>	<input type="text" value="5"/>

Here is where I perceive myself now 1 2 3 4 5
 Here is where I want to be 1 2 3 4 5

25. As a beginning teacher.....

I seldom have time to plan individualized activities so students can work independently	between 1 & 3	I ask individual students to work together quietly until I can help	between 3 & 5	I plan and create learning centers that can be used by individual students
<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>	<input type="text" value="4"/>	<input type="text" value="5"/>

Here is where I perceive myself now 1 2 3 4 5
 Here is where I want to be 1 2 3 4 5

Section II

Please respond to the following sentence stem by writing a brief paragraph.

My greatest need as a beginning teacher, at this point in time is...

SS# _____
(last 4 digits)

NEEDS ASSESSMENT FOR BEGINNING TEACHERS
FRANKLIN COUNTY/OSU PILOT INSTRUMENT

This instrument is designed to give you the opportunity to express your opinions about your needs as a beginning teacher so that Franklin County and OSU can provide you the services necessary in meeting those needs. There are no right or wrong responses, so do not hesitate to mark the statements frankly.

Section III

Fill in the information below. You will notice that there is no place for your name. Please do not record your name. All responses will be strictly confidential and results will be reported by groups only. DO NOT OMIT ANY ITEMS.

School district _____ Date _____

Age _____ Sex _____ Grade level/subject taught _____

Total number of years teaching experience _____

Highest degree completed _____

Place where educational training was received _____

Area of preparation or certification

Major _____ Minor _____

Race: (Circle One)

- A. American Indian
- B. Asian American
- C. Black American
- D. Hispanic, Spanish - surnamed American
- E. White American
- F. Other _____

Which of the following define you as an inductee (beginning) teacher in the Franklin County/OSU Induction Program. (Circle all that apply to your definition.)

- A. Certified teacher assigned to a classroom for the first time
- B. Certified teacher who was on an extended professional leave and returning to the classroom
- C. Certified teacher assigned to a different grade level
- D. Certified teacher assigned to a subject markedly different from previous assignments
- E. Certified teacher who was new to the building which you were assigned
- F. Certified teacher who was new to the district

CATEGORIES FOR EACH QUESTION IN THE BEGINNING TEACHER INSTRUMENT

1. Planning Lessons
2. Knowledge of Instructional Resources and Materials
3. Motivating Students
4. Classroom Discipline Strategies
5. Insufficient Materials and Supplies
6. Knowledge of Instructional Resources and Materials
7. Dealing with Individual Differences
8. Inadequate Guidance and Support
9. Relations with Colleagues
10. Heavy Teaching Load
11. Parent Relationships
12. Motivating Students
13. Classroom Discipline/Rules
14. Planning Lessons
15. Classroom Discipline
16. Inadequate School Equipment
17. Dealing with Individual Differences
18. Principal and Administrator Relationships
19. Classroom Discipline Strategies
20. Assessing Students' Work
21. Motivating Students
22. Parent Relationships
23. Assessing Students' Work
24. Classroom Management Organization
25. Dealing with Individual Differences

Franklin County / OSU

Needs Assessment for

Mentor Teachers

This instrument was developed by Brenda Stallion, Graduate Research Assistant, Ohio State University in conjunction with the Franklin County Schools/OSU Induction Program, funded by NIE grant contract #400-85-1043. Use of this instrument must be by permission of program director, Dr. Nancy L. Zimpher, College of Education, Department of Policy and Leadership, The Ohio State University, 121 Ramseyer Hall, 29 W. Woodruff Ave., Columbus, Ohio 43210

**NEEDS ASSESSMENT FOR MENTOR TEACHERS
FRANKLIN COUNTY/OSU PILOT INSTRUMENT**

Section I

DIRECTIONS FOR RECORDING RESPONSES ON SURVEY:

Please complete the following 25 needs statements. Note that the responses range from one extreme example of behavior to another. Fill out the needs assessment as follows:

- a. Read each statement carefully.
- b. Circle the responses most appropriate for a given item.
- c. Note that there are two responses that pertain to each item. Make sure both responses are completed.
- d. Please read the following example.

As a mentor teacher.....

I feel pressured and overwhelmed by mentoring responsibilities	Between 1 & 3	I feel there is a need for a mentoring program but am unsure of any responsibilities	Between 3 & 5	I feel honored in being asked to be a mentor and am eager to assume my new mentoring responsibilities
1	2	3	4	5
<div style="display: flex; justify-content: space-between;"> Here is where I perceive myself now 1 2 3 4 5 </div> <div style="display: flex; justify-content: space-between;"> Here is where I want to be 1 2 3 4 5 </div>				

NEEDS ASSESSMENT FOR MENTOR TEACHERS
FRANKLIN COUNTY/OSU PILOT INSTRUMENT

1. As a mentor teacher.....

I have not as yet shared some of my instructional resources	1	between 1 & 3	2	I send the beginning teacher to the resource center for instructional ideas	3	between 3 & 5	4	I freely exchange materials & resources with the beginning teacher	5
Here is where I perceive myself now									1 2 3 4 5
Here is where I want to be									1 2 3 4 5

2. As a mentor teacher.....

I have not talked about community & parent rapport with beginning teacher	1	between 1 & 3	2	I talk about the advantages of community rapport	3	between 3 & 5	4	I attend parent meetings or other community functions with the beginning teacher	5
Here is where I perceive myself now									1 2 3 4 5
Here is where I want to be									1 2 3 4 5

3. As a mentor teacher.....

I encounter problems demonstrating routines to beginning teachers	1	between 1 & 3	2	I frequently ask whether the teacher has finished some specific clerical routine	3	between 3 & 5	4	I list routines and explain how I handle my clerical responsibilities	5
Here is where I perceive myself now									1 2 3 4 5
Here is where I want to be									1 2 3 4 5

4. As a mentor teacher.....

I on occasion talk to the beginning teacher in the faculty lounge about teacher problems	1	between 1 & 3	2	I communicate regularly with the teacher after school about teacher problems	3	between 3 & 5	4	I assist new teachers in assessing their specific strengths & weaknesses by observing their class	5
Here is where I perceive myself now									1 2 3 4 5
Here is where I want to be									1 2 3 4 5

5. As a mentor teacher.....

I inform the principal of specific weaknesses of beginning teachers	between 1 & 3	I give the new teacher a kind word when they feel depressed	between 3 & 5	I give constructive criticism & support after observing classes & planning procedures
1	2	3	4	5
Here is where I perceive myself now				1 2 3 4 5
Here is where I want to be				1 2 3 4 5

6. As a mentor teacher.....

I seldom interfere with the planning of beginning professionals	between 1 & 3	I answer questions teachers have about lesson plans	between 3 & 5	I offer my lesson plan book as a model and make suggestions about resources
1	2	3	4	5
Here is where I perceive myself now				1 2 3 4 5
Here is where I want to be				1 2 3 4 5

7. As a mentor teacher.....

I never had the beginning teacher observe me	between 1 & 3	I prepared a short meeting where I demonstrated some teaching techniques	between 3 & 5	I frequently invite the teacher to my class to team teach lessons
1	2	3	4	5
Here is where I perceive myself now				1 2 3 4 5
Here is where I want to be				1 2 3 4 5

8. As a mentor teacher

I seldom deal with student-teacher interactions with the beginning teacher	between 1 & 3	I talk about how to improve student-teacher interactions	between 3 & 5	At appropriate moments I have other teachers share their problems & benefits of interacting with students
1	2	3	4	5
Here is where I perceive myself now				1 2 3 4 5
Here is where I want to be				1 2 3 4 5

9. As a mentor teacher.....

I tend to intimidate the beginning teacher when I am around	1	between 1 & 3	2	I am asked questions by the beginning teacher when they are confused or unsure	3	between 3 & 5	4	I feel the beginning teacher respects my opinions and shares experiences openly	5
Here is where I perceive myself now								1 2 3 4 5	
Here is where I want to be								1 2 3 4 5	

10. As a mentor teacher.....

I've never understood the value of standardized tests and what they tell us	1	between 1 & 3	2	I have knowledge of several aptitude and achievement measures	3	between 3 & 5	4	I use tests as diagnostic indicators within my teaching and planning	5
Here is where I perceive myself now								1 2 3 4 5	
Here is where I want to be								1 2 3 4 5	

11. As a mentor teacher.....

I know many classroom strategies for disciplining children that I share with the beginning teacher	1	between 1 & 3	2	I watch for disturbances in the beginning teacher's classroom so that I can help	3	between 3 & 5	4	I am aware of the policies and procedures of referring students to the principal	5
Here is where I perceive myself now								1 2 3 4 5	
Here is where I want to be								1 2 3 4 5	

12. As a mentor teacher.....

My principal never trusts my judgment of the beginning teacher's ability	1	between 1 & 3	2	My principal offers me support and encouragement when necessary	3	between 3 & 5	4	My principal provides feedback on a regular basis regarding my efforts and provides support	5
Here is where I perceive myself now								1 2 3 4 5	
Here is where I want to be								1 2 3 4 5	

13. As a mentor teacher.....

I never use group work in my class	between 1 & 3	I group my students and ask them to complete a project	between 3 & 5	I am familiar with a variety of group strategies and grading procedures
1	2	3	4	5
Here is where I perceive myself now				1 2 3 4 5
Here is where I want to be				1 2 3 4 5

14. As a mentor teacher.....

I lecture more than 80% of the instructional time	between 1 & 3	Occasionally, I use transparencies, T.V. and guest speakers in presenting my materials	between 3 & 5	I vary my teaching techniques daily to add variety and meet individual needs
1	2	3	4	5
Here is where I perceive myself now				1 2 3 4 5
Here is where I want to be				1 2 3 4 5

15. As a mentor teacher.....

I do not belong to any professional organizations	between 1 & 3	I am a member of several professional organizations	between 3 & 5	I rely on professional organizations for many unique ideas in keeping up-to-date in my profession
1	2	3	4	5
Here is where I perceive myself now				1 2 3 4 5
Here is where I want to be				1 2 3 4 5

16. As a mentor teacher.....

I do not know our school psychologist, curriculum resource person or media specialists	between 1 & 3	I know the school psychologist, curriculum resource person and the media specialists	between 3 & 5	I utilize the services of the curriculum resource person, school psychologist and media specialist
1	2	3	4	5
Here is where I perceive myself now				1 2 3 4 5
Here is where I want to be				1 2 3 4 5

17. As a mentor teacher.....

I seldom have time to plan individualized activities so students can work independently	1	between 1 & 3	2	I ask individual students to work together quietly until I can help	3	between 3 & 5	4	I plan and create learning centers that can be used by individual students	5
Here is where I perceive myself now								1 2 3 4 5	
Here is where I want to be								1 2 3 4 5	

18. As a mentor teacher.....

When I observe a beginning teacher's noisy, disorderly classroom I ignore it	1	between 1 & 3	2	I know that the beginning teacher has class rules for the class	3	between 3 & 5	4	I am pleased with the discipline practices and confidence the beginning teacher has with the students	5
Here is where I perceive myself now								1 2 3 4 5	
Here is where I want to be								1 2 3 4 5	

19. As a mentor teacher.....

I know the policy handbook needs to be revised so I do not refer to it	1	between 1 & 3	2	I remind the teacher to look at the policy handbook when rules are broken	3	between 3 & 5	4	I review the procedures described in the policy handbook with the beginning teacher	5
Here is where I perceive myself now								1 2 3 4 5	
Here is where I want to be								1 2 3 4 5	

20. As a mentor teacher.....

I feel incapable of providing for the needs of special education students in my class	1	between 1 & 3	2	I understand the law regarding special education students	3	between 3 & 5	4	I work with the special education teacher to meet the needs of the special education students	5
Here is where I perceive myself now								1 2 3 4 5	
Here is where I want to be								1 2 3 4 5	

21. As a mentor teacher.....

I feel parents are of little value and should not be considered in determining the educational end for their child	between 1 & 3	I've discussed parent-teacher conferences with the beginning teacher	between 3 & 5	I've discussed the procedures for effective parent-teacher conferences and the value of keeping on-going files of the students' work
<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>	<input type="text" value="4"/>	<input type="text" value="5"/>
Here is where I perceive myself now				1 2 3 4 5
Here is where I want to be				1 2 3 4 5

22. As a mentor teacher.....

I keep my course of study in the upper left hand drawer of my desk	between 1 & 3	I've gone over the course of study with the beginning teacher	between 3 & 5	I've developed classroom materials for lessons that come out of the course of study
<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>	<input type="text" value="4"/>	<input type="text" value="5"/>
Here is where I perceive myself now				1 2 3 4 5
Here is where I want to be				1 2 3 4 5

23. As a mentor teacher.....

I do not help the beginning teacher to organize time	between 1 & 3	I can identify ineffective group work because of the beginning teachers poor time management	between 3 & 5	I share effective time management and organizational skills with the beginning teacher
<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>	<input type="text" value="4"/>	<input type="text" value="5"/>
Here is where I perceive myself now				1 2 3 4 5
Here is where I want to be				1 2 3 4 5

24. As a mentor teacher.....

I assume the beginning teacher knows several techniques for motivating students	1	between 1 & 3	2	I have suggested several references which describe techniques to use in motivating students	3	between 3 & 5	4	I am prepared to discuss and demonstrate several techniques for motivating students	5
Here is where I perceive myself now								1 2 3 4 5	
Here is where I want to be								1 2 3 4 5	

25. As a mentor teacher.....

I lack the reference materials and supplies necessary to help the beginning teacher	1	between 1 & 3	2	I have a few personal reference materials and supplies I can share with the beginning teacher	3	between 3 & 5	4	I have adequate reference materials and supplies to share with the beginning teacher	5
Here is where I perceive myself now								1 2 3 4 5	
Here is where I want to be								1 2 3 4 5	

Section II

Please respond to the following sentence stem by writing a paragraph.

My greatest concern about being a mentor at this point in time is...

Please respond to the following sentence stem by writing a paragraph.

I was chosen to be a mentor because...

SS# _____
(last 4 digits)

NEEDS ASSESSMENT FOR MENTOR TEACHERS
FRANKLIN COUNTY/OSU PILOT INSTRUMENT

This instrument is designed to give you the opportunity to express your opinions about your needs as a beginning teacher so that Franklin County and OSU can provide you the services necessary in meeting those needs. There are no right or wrong responses, so do not hesitate to mark the statements frankly.

Section III _____

Fill in the information below. You will notice that there is no place for your name. Please do not record your name. All responses will be strictly confidential and results will be reported by groups only. DO NOT OMIT ANY ITEMS.

School district _____ Date _____

Age _____ Sex _____ Grade level/subject taught _____

Total number of years teaching experience _____

Highest degree completed _____

Place where educational training was received _____

Area of preparation or certification

Major _____ Minor _____

Race: (Circle One)

- A. American Indian
- B. Asian American
- C. Black American
- D. Hispanic, Spanish - surnamed American
- E. White American
- F. Other _____

1. Developing Instructional Materials
2. Guidance and Support
3. Clerical Work
4. Teacher Mentor Dialogue
5. Guidance and Support
6. Planning Lessons
7. Teaching Strategies
8. Beginning Teacher/Student Interactions
9. Guidance and Support
10. Evaluation
11. Planning Lessons
12. Guidance and Support
13. Grouping Strategies
14. Teaching Strategies
15. Professional Development
16. Support Service
17. Individualized Instruction
18. Discipline Techniques of Beginning Teachers
19. Awareness of School Policies and Procedures
20. Dealing with Individual Differences
21. Dealing with Parents
22. Use of Curriculum
23. Time Management Skills
24. Sharing Motivational Techniques
25. Inadequate Supplies and Materials

**Plans for the Experimental Design
in Classroom Management Training
Groveport Madison District**

Population = 33 paired mentor/inductees
Setting is Groveport Madison Local Schools in Franklin County

18 inductee/mentors in elementary schools
6 inductee/mentors in middle schools
9 inductee/mentors in secondary schools
33 inductee//mentors TOTAL

Procedures

1. Randomly assign 33 pairs of mentor/inductees into the two experimental groups and the control group. This can be done by the use of a table of random numbers. The experimental group will be randomly stratified by grade level before treatment.
2. The research design is a non-equivalent control group design, which is true experimental research and can best be described as follows:

R X O
 MI I

R X O
 M I

R X O
 I

3. Experimental (trained) group: Control Group (Delayed training):

Each group consists of three level (elementary, middle, secondary)

22 mentors	11 inductees
11 inductees	22 mentors

4. A diagnostic check list will be given prior to planning the intervention model so we can assess where they are at mid-year intervention time (March 11-12).

When: February 24 and 25 - Brenda Stallion and Sherry Kuehnle will distribute diagnostic check sheets and collect them on site at the individual schools.

Purpose: *check prior to randomization for equal distribution of problems by groups
*checks for equal representation of grade level with groups
*guides the content of intervention model

- *monitors the time/concentration needed on topics
- *need to sign diagnostic check sheet by district/grade level
- *all 66 mentors and inductees will receive diagnostic check list
- *only the 33 experimental mentors and inductees will receive the diagnostic check list.

5. Letters to inductees and mentors will be sent by:

Sherry Kuehnle/principals (supporting study)
 Mark Stevens (support to study)
 Brenda Stallion (explanation of study)

6. Observation Procedures Explained to Observers

- *4 observations per teacher
- * $33 \times 4 = 132$
- *4 observations (40 minutes length)
- *10 weeks for data collection
- *Sign up for observation will be scheduled by Sherry Kuehnle
- *Explanation of data collection instruments by Brenda Stallion

7. Mentor Responsibilities After Training Session

- *Need to communicate with inductees during the 10 weeks of observation
- *Fill out conference report forms, critical events, minute paper and/or journal. (This is for the authenticity of the mentoring process.)
- *Collect any reflectivity materials on a weekly basis

8. Observer Responsibilities After Training Session

- *Rotate observer and teacher (1 observer sees 1 teacher at least twice)
- *No more than 2 observations of same teacher (this causes novelty effects)
- *Fill out a summary rating scale on the teacher (at the end of June)
- *Responsible for keeping records, tapes until they are picked up by Brenda on a weekly basis (details explained later).

9. Inductee Responsibilities after Training Session

- *Have to be observed by the appointed observers
- *Need to communicate with mentors during the 10 weeks of observation
- *Fill out conference report forms, critical events, minute papers and/or journal. (This is for the authenticity of the mentoring process.)
- *Turn in reflectivity materials on a weekly basis.

10. Researcher's Responsibilities: (Brenda)

1. Travel to Vanderbilt University to be trained by Dr. Carolyn Evertson in Classroom Management (2 days).
2. Communicate the purpose and plans for the research study to administrators, teachers and planning committee.

3. Randomly select 37 teachers (by grade level) to be involved in the study.
4. Write letters to all 66 mentors and inductees in both the experimental and control groups explaining the study.
5. Visit each teacher in the experimental study and deliver a letter of explanation and the diagnostic check list on February 24 and 25.
6. Meet with all inductees at their individual schools on February 24 and 25 to explain observation procedures.
7. Develop the intervention model on Classroom Management Training to be used in the two-day workshop.
8. *Conduct the (two-day) Classroom Management Training workshop on March 11 and March 12.
9. *Conduct the (1/2 day) training for the observers involved in data collection.
10. *Schedule observation time and date with the inductee (I will also serve as an observer).
11. *Collect data from the observers once a week at their particular schools.
12. *Conduct a delayed (1 day) Classroom Management Training workshop in May for those in the control group.
13. *Meet with all inductees at the end of the study to give feedback and results of the study.

APPENDIX B
CORRESPONDENCE

Groveport Madison Local Schools

241

6055 SOUTH HAMILTON ROAD
GROVEPORT, OHIO 43125
Phone 836-5371

February 19, 1986

ADMINISTRATIVE OFFICE
5055 South Hamilton Road
836-5371

ASBURY ELEMENTARY
5127 Harbor Boulevard

DUNLOE ELEMENTARY
3200 Dunloe Road
837-3434

CLANDENING ELEMENTARY
4200 Clandenning Drive
836-5303

GROVEPORT ELEMENTARY
713 East Main Street
836-5366

MADISON ELEMENTARY
4600 Madison School Drive
837-5561

SEDALIA ELEMENTARY
3400 Sedalia Drive
837-4314

MIDDLE SCHOOL NORTH
5-74 Sedalia Drive
837-5508

MIDDLE SCHOOL SOUTH
4400 Clandenning Drive
836-5022

FRESHMAN SCHOOL
751 East Main Street
836-5348

SENIOR HIGH SCHOOL
4475 South Hamilton Road
836-5345

Dear Mentors and Inductees,

You have been active and cooperative in working together to support a pilot induction project for the benefit of new teachers since the start of the academic year 1985-86. This project, as you know, is a collaborative effort between the Franklin County Schools and The Ohio State University. Our plans are to continue supporting new teachers through this school system. I am pleased to announce that the Groveport Madison School District has been selected as the site for a research study. Brenda Stallion, the graduate assistant for the Induction Project, will be conducting the research and training workshop. I am writing to explain the purpose of the study, the selection and schedule of the participants, and the benefits to be derived from the results of the study.

A classroom management workshop has been developed as a result of your responses to a needs assessment instrument that was filled out in September of 1985. The results of the instrument were analyzed and classroom management was identified as one of the major problems of mentors and beginning teachers. The purpose of this study is to determine if a training workshop in classroom management reduces the problems of beginning teachers. Thirty-three paired mentor and inductee teachers have been randomly selected to participate in this study. The training session will be March 11 and March 12, 1986. During the week of February 24, Sherry Kuehnle and Brenda Stallion will be meeting with all mentors and inductees at their individual building site regarding the March training. (This is not related to whether you are enrolled in the OSU courses for credit.) All those not randomly selected for the March training session will be trained in May and contacts will be made at that time. Released time will be provided to all those participating in the workshop on March 11 and March 12. The workshops will be scheduled from 7:45 to 3:00 p.m. at Asbury Elementary School and lunch will be provided.

This study gives our school system the benefit of being among the first of many school districts from across the nation to participate in an induction program designed to support beginning teachers. There is an extant amount of literature on classroom management but little research has been done on the effects of a mentor and inductee training project using a classroom management intervention model. Second, the research will generate fee waivers to be used for graduate credit courses at The Ohio State University. And finally, and most importantly, teachers will be helping teachers in a collegial environment.

Thank you for your participation in this year's pilot induction project and the upcoming classroom management training program.

Sincerely,

Mark O. Stevens
Superintendent

MOS/jb

CC: Nancy Zimpher
Brenda Stallion
Dewey Adams

MEMORANDUM

243

TO: All Building Principals
FROM: Sherry Kuehnle, Asbury Principal
RE: Dissertation Study

The purpose of this memo is to inform you that Brenda Stallion of The Ohio State University and myself will be visiting each of your schools next week to explain the dissertation study. We would like to meet with you and your mentor and inductee paired teachers to explain the classroom management intervention workshop. During this meeting, classroom observation schedules will be prepared and time arrangements will be confirmed. In addition, we will be conducting classroom observations in each of your buildings from March 17 to June 10, 1986.

Your time and cooperation regarding this endeavor is greatly appreciated.

P.S. -- I will contact you by telephone to arrange a time that is suitable for you.

The Ohio State University

244.
Department of
Educational Policy and Leadership
College of Education
121 Ramseyer Hall
29 West Woodruff Avenue
Columbus, Ohio 43210-1177

TO: All Mentor and Inductee Teachers in Groveport Madison school District
FROM: Brenda Stallion
DATE: March 7, 1986
RE: Classroom Management Workshop

First, I would like to thank you for allowing me to visit with each of you last week. It was a pleasant experience to see a dedicated group of mentor and inductee teachers supporting the professional endeavors of the Franklin County/OSU Induction Project. I am looking forward to sharing the knowledge and expertise of those teachers who will be participating in the March 11th and 12th workshop and also those who will be participating in the May workshop.

For all mentor and inductee teachers who will be participating in the March 11 and 12 workshop, please note the following information:

1. The workshop will be held at Asbury Elementary School from 7:45 a.m. to 3:00 p.m. Mark Stevens, Superintendent, will be present to welcome all mentor and inductee teachers. Coffee and doughnuts will be provided during the morning, and lunch will be provided by the Franklin County/OSU Induction Project. As you already know a substitute teacher is being provided for you, so you do not need to call "code a phone."
2. If you are enrolled in the 727A class (inductees) or the 727B class (mentors) please complete one of the following forms: (1) Conference Report Form; (2) Critical Event Form; or (3) Journal. (These are the same forms that you are already using in your class.) If you are not enrolled in either course; you should also choose one of the above mentioned forms. (All three forms are enclosed.)

I will pick up one (of your choosing) form from you on each of the following dates, at our mentoring conferences - March 21, April 11, April 25, May 2, or May 16. The forms chosen are to be completed by ALL paired mentor and inductee teachers in the Groveport Madison School District, whether you are attending the March 11 and 12 workshop or the May workshop.

Again, Many thanks. I am looking forward to seeing all 66 of you between March and May!

PROGRAM AREAS

Curriculum and Instructional
Development
121 Ramseyer Hall
614-422-5181

Educational Administration
301 Ramseyer Hall
614-422-7700

Higher Education, Student
Affairs and Adult Education
301 Ramseyer Hall
614-422-7700

Humanistic Foundations
121 Ramseyer Hall
614-422-5181

Vocational-Technical
Education
160 Ramseyer Hall
614-422-5037

The Ohio State University

245
Department of
Educational Policy and Leadership
College of Education
121 Ramseyer Hall
29 West Woodruff Avenue
Columbus, Ohio 43210-1177

TO: All Mentors and Inductees
FROM: Brenda Stallion (BS)
DATE: March 25, 1986
RE: Classroom Management Workshop

A special thanks to all those mentors and inductees who made the Classroom Management Intervention Workshop a success. I enjoyed working with each and everyone of you. It was your personal contributions and your active participation that made the two day sessions a rewarding experience!

I am also anticipating the same successful results for all other mentors and inductees who will be attending the May workshop.

The following is just a reminder to continue filling out your mentoring forms (which ever form you chose). I will pick the first one up March 26, and the other four on April 11, April 25, May 2 and May 16. Please have them in the principal's office by 8:00 a.m. on each of these dates.

I want to apologize for not picking up the first form on March 21. However, due to an illness with the flu, I did not make the trip to your schools.

Also, I would like to remind you that observations have begun. All inductees, whether you attended the workshop or not, will be observed four times during the next nine weeks. The following procedures will be adhered to by each of the eight observers.

1. Enter the room as unobtrusively as possible
2. Record data for at least 40 minutes
3. Keep data confidential

I will discuss the results of the data and the instruments with you after all the observations have been made. The last day for scheduled observations is May 16. It takes several weeks to analyze the data, therefore, you should expect the results at the end of the school year.

Thanks again for all your help and support. Everyone, please continue to mentor with your inductees and fill out the mentoring form you have chosen. Happy Easter!

PROGRAM AREAS

Curriculum and Instructional
Development
121 Ramseyer Hall
614-422-5181

Educational Administration
301 Ramseyer Hall
614-422-7700

Higher Education, Student
Affairs and Adult Education
301 Ramseyer Hall
614-422-7700

Humanistic Foundations
121 Ramseyer Hall
614-422-5181

Vocational-Technical
Education
160 Ramseyer Hall
614-422-5037

MEMO

246

To: All Teacher Induction Participants (Inductees/Mentors)

From: Susan Moore (Asbury secretary)

On Friday, April 25, 1986, the third assignment for the Induction Program is due. Once again, to avoid the interruption of classes, please have your assignments at the main office of your school.

I will be coming to each school sometime on Friday to pick up these assignments.

If you have any questions, you may call me at 833-2000. Thank you.

MEMO

247

May 1, 1986

To: All Teacher Induction Participants (Inductees/Mentors)

From: Susan Moore, Asbury secretary

On Friday, April 25, 1986, I was to pick up the third assignment for the Induction Program. However, due to the closing of school that day, I was unable to do so. This Friday, May 2, 1986, Brenda Stallion will be stopping at each school to pick up the third assignment that was due along with Assignment #4 which is now also due. Please turn in both assignments at your office. Your cooperation is greatly appreciated. Thank you.

MEMO

To: All Teacher Induction Participants (Inductees/Mentors)

Please be advised that on Friday, April 11, 1986, Brenda Stallion of The Ohio State University will be stopping at each school in the district to pick up the assignments for the Induction Program.

To avoid the interruption of classes, please have your assignments at the main office of your school first thing in the morning on April 11th.

For those of you who did not have the first assignment completed, you may turn in both assignments #1 and #2 at this time.

If you have any questions regarding this matter, you may contact Brenda at 299-3278 or Susan Moore (Asbury secretary).

Thank you for your anticipated cooperation.

MEMO

May 1, 1986

249

To: Lori Adams and Linda Trout
From: Susan Moore, Asbury secretary
Re: Teacher Induction Program

Brenda Stallion from The Ohio State University will be coming to your school on May 12, 1986 to observe both of you. Below is a listing of each of your times.

Lori Adams - 1:40 p.m.

Linda Trout - 2:30 p.m.

Dear

Vicki Ramey

Brenda Stallion and I will meet with you in your building on

Tuesday, Feb. 25 at 4:10.

Thank you,

Sherry Kuehnle

The Ohio State University

Department of
Educational Policy and Leadership
College of Education

251

121 Ramseyer Hall
29 West Woodruff Avenue
Columbus, Ohio 43210-1177

TO: Mentors and Inductees (not present at the March workshop)
FROM: Brenda Stallion
DATE: May 2, 1986
RE: Regarding the May Classroom Management Workshop on May 27, 1986

It's that time when we ask ourselves, where has this year gone? It's also time to invite all mentor and inductee teachers who were not present at the March Classroom Management Workshop to attend the May session, as promised. The workshop will be held on May 27, at Asbury Elementary School in the Curriculum Center, from 7:45 a.m. - 3:30 p.m. Because it is the end of the school year and you may have individual building commitments, you may choose whether you wish to attend. Please confirm your attendance by May 6, 1986 by calling:

Susan Moore (Secretary)
Asbury Elementary School
Phone - 833-2000

Coffee and doughnuts will be provided during the morning, and lunch will be provided at the noon hour by the Franklin County/OSU Induction Project. A substitute teacher is being provided for you, so you do not need to call code a phone.

Thank you for your continued support in the Franklin County/OSU Induction Project. I am looking forward to meeting and sharing your ideas at the May 27 Classroom Management Workshop.

PROGRAM AREAS

Curriculum and Instructional
Development
121 Ramseyer Hall
614-422-5181

Educational Administration
301 Ramseyer Hall
614-422-7700

Higher Education, Student
Affairs and Adult Education
301 Ramseyer Hall
614-422-7700

Humanistic Foundations
121 Ramseyer Hall
614-422-5181

Vocational-Technical
Education
160 Ramseyer Hall
614-422-5037

APPENDIX C
INSTRUMENTATION, AND MENTOR AND INDUCTEE
INTERVENTION PLANNING FORMS

CLASSROOM RATING SCALES

253

Teacher _____ School _____ Date _____ AM PM

Number of Students _____ Observer _____

Instructional Management 1. Instructional Management

5 4 3 2 1 a. Describes objectives clearly

5 4 3 2 1 b. Materials are ready

5 4 3 2 1 c. Clear directions for assignments

5 4 3 2 1 d. Assignments for different students

5 4 3 2 1 e. Provides or seeks rationales/analysis

5 4 3 2 1 f. Appropriate pacing of lesson

5 4 3 2 1 g. Clear explanations and presentations

5 4 3 2 1 h. Monitors student understanding

5 4 3 2 1 i. Clear work standards

5 4 3 2 1 j. Consistently enforces work standards

2. Rules and Procedures

5 4 3 2 1 a. Appropriate general procedures

5 4 3 2 1 b. Efficient small group procedures

5 4 3 2 1 c. Suitable routines for assigning, checking, and collecting work

3. Meeting Student Concerns

5 4 3 2 1 a. Attention spans considered in lessons

5 4 3 2 1 b. Degree of student success

5 4 3 2 1 c. Activities related to students backgrounds and interests

4. Managing Pupil Behavior

5 4 3 2 1 a. Rewards appropriate performance

5 4 3 2 1 b. Consistency in managing behavior

5 4 3 2 1 c. Effective monitoring

5 4 3 2 1 d. Efficient transition between activities

5. Student Misbehavior

5 4 3 2 1 a. ^{*}Disruptive pupil behavior

5 4 3 2 1 b. ^{*}Inappropriate pupil behavior

(*5 = A lot, 1 = None)

NARRATIVE NOTES

254.

Teacher _____ School _____ Subject _____ Grade Level/Period _____ Observer _____

Date _____ #Students present _____ Page _____ of _____

START: TIME:

Beg.	End	
		1.
		2.
		3.
		4.
		5.
		6.
		7.
		8.
		9.
		10.
		11.
		12.
		13.
		14.
		15.
		16.
		17.
		18.
		19.
		20.
		21.
		22.
		23.
		24.
		25.

Student Engagement

Time: _____

No. of Students _____

Total: _____

Def. On-task: _____

Prob. On-task: _____

Off-task: _____

Dead time: _____

Student Engagement

Time: _____

No. of Students _____

Total: _____

Def. On-task: _____

Prob. On-task: _____

Off-task: _____

Dead time: _____

CONFERENCE REPORT FORM

Inductee _____

Name _____

Mentor _____

District _____

1. What problem or concern did you discuss?

2. What strategies were proposed for resolving the problem/concern?

3. What were your general reactions to the conference?

PROBLEM ANALYSIS

--

Forces for resolving. . .Forces against resolving. . .

--

Plans for Using Classroom Management
Intervention ConceptsStrategies to Achieve Classroom
Management ConceptsConcept One: Organizing Classroom and Supplies

1.	1.
2.	2.
3.	3.

Concept Two: Choosing Rules and Procedures

1.	1.
2.	2.
3.	3.

Concept Three: Consequences/Rewards and Penalties

1.	1.
2.	2.
3.	3.

Concept Four: Developing Student Accountability

1.	1.
2.	2.
3.	3.

Concept Five: Monitoring Student Performance

1.	1.
2.	2.
3.	3.

APPENDIX D

TABLES

Table E-1
 Summary of ANOVA On Classroom Ratings of Group I Teachers
 on Domain 1 (Instructional Management); Estimated
 Mean Square Equations; Estimated Random Effects Variance Components (EVCs)

Source (α)	df	MS	EMS	EVC [$\sigma^2(\alpha)$]
Teachers (t)	9	4.3763	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)} + 10 \sigma^2_{(o:t)} + 30 \sigma^2_{(t)}$	(0.0)
Occasions (o):t	20	7.3250	$\sigma^2_{(oi:t)} + 10 \sigma^2_{(o:t)}$	.6907
Items (i)	9	13.2967	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)} + 30 \sigma^2_{(i)}$	.4063
ti	81	1.1088	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)}$	.2304
oi:t	180	.4176	$\sigma^2_{(oi:t)}$	.4176
Total	299			

Table E- 2
Summary of ANOVA on Classroom Ratings of Group II Teachers
on Domain 1 (Instructional Management); Estimated
Mean Square Equations; Estimated Random Effects Variance Components (EVCs)

Source (α)	df	MS	EMS	EVC [$\hat{\sigma}^2(\alpha)$]
Teachers (t)	9	18.2037	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)} + 10 \sigma^2_{(o:t)} + 30 \sigma^2_{(t)}$	.4240
Occasions (o):t	20	5.0717	$\sigma^2_{(oi:t)} + 10 \sigma^2_{(o:t)}$	.4500
Items (i)	9	6.9630	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)} + 30 \sigma^2_{(i)}$	.1993
ti	81	.9825	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)}$	.1369
oi:t	180	.5717	$\sigma^2_{(oi:t)}$	.5717
Total	299			

Table E- 3
Summary of ANOVA on Classroom Ratings of Group III Teachers
on Domain 1 (Instructional Management); Estimated
Mean Square Equations; Estimated Random Effects Variance Components (EVCs)

Source (α)	df	MS	EMS	EVC [σ^2 (α)]
Teachers (t)	9	16.2982	$\sigma^2(o_i:t) + 3 \sigma^2(t_i) + 10 \sigma^2(o:t) + 30 \sigma^2(t)$	.3590
Occasions (o):t	20	4.0667	$\sigma^2(o_i:t) + 10 \sigma^2(o:t)$	.3493
Items (i)	9	13.8463	$\sigma^2(o_i:t) + 3 \sigma^2(t_i) + 30 \sigma^2(i)$	.3937
ti	81	2.0364	$\sigma^2(o_i:t) + 3 \sigma^2(t_i)$	.4874
oi:t	180	.5741	$\sigma^2(o_i:t)$	.5741
Total	299			

Table E-4
Summary of ANOVA on Classroom Ratings of Group I Teachers
on Domain 2 (Rules and Procedures); Estimated
Mean Square Equations; Estimated Random Effects Variance Components (EVCs)

Source (α)	df	MS	EMS	EVC [$\hat{\sigma}^2(\alpha)$]
Teachers (t)	9	6.0321	$\sigma^2(o_i:t) + 3 \sigma^2(ti) + 3 \sigma^2(o:t) + 9 \sigma^2(t)$	.4063
Occasions (o):t	20	.9167	$\sigma^2(o_i:t) + 3 \sigma^2(o:t)$	.1111
Items (i)	2	3.2861	$\sigma^2(o_i:t) + 3 \sigma^2(ti) + 30 \sigma^2(i)$	.0415
ti	18	2.0423	$\sigma^2(o_i:t) + 3 \sigma^2(ti)$	.4863
oi:t	40	.5833	$\sigma^2(o_i:t)$	.5833
Total	89			

Table E- 5
Summary of ANOVA on Classroom Ratings of Group II Teachers
on Domain 2 (Rules and Procedures); Estimated
Mean Square Equations; Estimated Random Effects Variance Components (EVCs)

Source (α)	df	MS	EMS	EVC [$\hat{\sigma}^2(\alpha)$]
Teachers (t)	9	4.2395	$\sigma^2(o_i:t) + 3 \sigma^2(t_i) + 3 \sigma^2(o:t) + 9 \sigma^2(t)$	.3050
Occasions (o):t	20	.7833	$\sigma^2(o_i:t) + 3 \sigma^2(o:t)$	.1722
Items (i)	2	.0361	$\sigma^2(o_i:t) + 3 \sigma^2(t_i) + 30 \sigma^2(i)$	(0.0)
ti	18	.9775	$\sigma^2(o_i:t) + 3 \sigma^2(t_i)$	.2369
oi:t	40	.2667	$\sigma^2(o_i:t)$	.2667
Total	89			

Table E-6
Summary of ANOVA on Classroom Ratings of Group III Teachers
on Domain 2 (Rules and Procedures); Estimated
Mean Square Equations; Estimated Random Effects Variance Components (EVCs)

Source (α)	df	MS	EMS	EVC [$\sigma^2(\alpha)$]
Teachers (t)	9	12.8299	$\sigma^2(o_i:t) + 3\sigma^2(t_i) + 3\sigma^2(o:t) + 9\sigma^2(t)$	1.1259
Occasions (o):t	20	2.6972	$\sigma^2(o_i:t) + 3\sigma^2(o:t)$	.5833
Items (i)	2	.2194	$\sigma^2(o_i:t) + 3\sigma^2(t_i) + 30\sigma^2(i)$	(0.0)
ti	18	.6762	$\sigma^2(o_i:t) + 3\sigma^2(t_i)$	(0.0)
oi:t	40	.9472	$\sigma^2(o_i:t)$	.9472
Total	89			

Table E- 7
Summary of ANOVA on Classroom Ratings of Group I Teachers
on Domain 3 (Meeting Student Concerns); Estimated
Mean Square Equations; Estimated Random Effects Variance Components (EVCs)

Source (α)	df	MS	EMS	EVC [$\hat{\sigma}^2 (\alpha)$]
Teachers (t)	9	1.8074	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)} + 3 \sigma^2_{(o:t)} + 9 \sigma^2_{(t)}$	(0.0)
Occasions (o):t	20	1.9333	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(o:t)}$	.5389
Items (t)	2	.2333	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)} + 30 \sigma^2_{(i)}$	(0.0)
ti	18	.5296	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)}$	.0710
oi:t	40	.3167	$\sigma^2_{(oi:t)}$	.3167
Total	89			

Table E- 8
Summary of ANOVA on Classroom Ratings of Group II Teachers
on Domain 3 (Meeting Student Concerns); Estimated
Mean Square Equations; Estimated Random Effects Variance Components (EVCs)

Source (α)	df	MS	EMS	EVC [σ^2 (α)]
Teachers (t)	9	6.3707	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)} + 3 \sigma^2_{(o:t)} + 9 \sigma^2_{(t)}$	.4673
Occasions (o):t	20	1.8306	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(o:t)}$	.4389
Items (i)	2	.1694	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)} + 30 \sigma^2_{(i)}$	(0.0)
ti	18	.8485	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)}$	.1115
oi:t	40	.5139	$\sigma^2_{(oi:t)}$	.5139
Total	89			

Table E-9
Summary of ANOVA on Classroom Ratings of Group III Teachers
on Domain 3 (Meeting Student Concerns); Estimated
Mean Square Equations; Estimated Random Effects Variance Components (EVCs)

Source (α)	df	MS	EMS	EVC [$\sigma^2(\alpha)$]
Teachers (t)	9	6.6546	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)} + 3 \sigma^2_{(o:t)} + 9 \sigma^2_{(t)}$	.5513
Occasions (o):t	20	1.3028	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(o:t)}$	.2528
Items (i)	2	.1194	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)} + 30 \sigma^2_{(i)}$	(0.0)
ti	18	.9343	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)}$	.1299
oi:t	40	.5444	$\sigma^2_{(oi:t)}$	.5444
Total	89			

Table E- 10
 Summary of ANOVA on Classroom Ratings of Group I Teachers
 on Domain 4 (Managing Pupil Behavior); Estimated
 Mean Square Equations; Estimated Random Effects Variance Components (EVCs)

Source (α)	df	MS	EMS	EVC [$\hat{\sigma}^2(\alpha)$]
Teachers (t)	9	4.9002	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)} + 4 \sigma^2_{(o:t)} + 12 \sigma^2_{(t)}$	.1222
Occasions (o):t	20	2.7479	$\sigma^2_{(oi:t)} + 4 \sigma^2_{(o:t)}$	.5611
Items (i)	3	.5410	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)} + 30 \sigma^2_{(i)}$	(0.0)
ti	27	1.1891	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)}$	.2285
oi:t	60	.5035	$\sigma^2_{(oi:t)}$	.5035
Total	119			

Table E- 11
Summary of ANOVA on Classroom Ratings of Group II Teachers
on Domain 4 (Managing Pupil Behavior); Estimated
Mean Square Equations; Estimated Random Effects Variance Components (EVCs)

Source (α)	df	MS	EMS	EVC [$\sigma^2 (\alpha)$]
Teachers (t)	9	12.8799	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)} + 4 \sigma^2_{(o:t)} + 12 \sigma^2_{(t)}$	.8470
Occasions (o):t	20	2.7021	$\sigma^2_{(oi:t)} + 4 \sigma^2_{(o:t)}$	.6014
Items (i)	3	.4188	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)} + 30 \sigma^2_{(i)}$	.0036
ti	27	.3107	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)}$	.0047
oi:t	60	.2965	$\sigma^2_{(oi:t)}$	.2965
Total	119			

Table E- 12
Summary of ANOVA on Classroom Ratings of Group III Teachers
on Domain 4 (Managing Pupil Behavior); Estimated
Mean Square Equations; Estimated Random Effects Variance Components (EVCs)

Source (α)	df	MS	EMS	EVC [$\hat{\sigma}^2(\alpha)$]
Teachers (t)	9	10.9639	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)} + 4 \sigma^2_{(o:t)} + 12 \sigma^2_{(t)}$	.6851
Occasions (o):t	20	2.0833	$\sigma^2_{(oi:t)} + 4 \sigma^2_{(o:t)}$	.4403
Items (i)	3	.2667	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)} + 30 \sigma^2_{(i)}$	(0.0)
ti	27	.9812	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)}$	.2197
oi:t	60	.3222	$\sigma^2_{(oi:t)}$	.3222
Total	119			

Table E- 13
 Summary of ANOVA on Classroom Ratings of Group I Teachers
 on Domain 5 (Student Misbehavior); Estimated
 Mean Square Equations; Estimated Random Effects Variance Components (EVCs)

Source (α)	df	MS	EMS	EVC [$\sigma^2 (\alpha)$]
Teachers (t)	9	1.6963	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)} + 2 \sigma^2_{(o:t)} + 6 \sigma^2_{(t)}$	.0265
Occasions (o):t	20	1.7667	$\sigma^2_{(oi:t)} + 2 \sigma^2_{(o:t)}$	.3833
Items (i)	1	13.0667	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)} + 30 \sigma^2_{(i)}$	.4099
ti	9	.7704	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)}$	(0.0)
oi:t	20	1.0000	$\sigma^2_{(oi:t)}$	1.0000
Total	59			

Table E-14
Summary of ANOVA on Classroom Ratings of Group II Teachers
on Domain 5 (Student Misbehavior); Estimated
Mean Square Equations; Estimated Random Effects Variance Components (EVCs)

Source (α)	df	MS	EMS	EVC [$\hat{\sigma}^2(\alpha)$]
Teachers (t)	9	4.4093	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)} + 2 \sigma^2_{(o:t)} + 6 \sigma^2_{(t)}$	.4691
Occasions (o):t	20	1.6000	$\sigma^2_{(oi:t)} + 2 \sigma^2_{(o:t)}$	.6667
Items (i)	1	4.8167	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)} + 30 \sigma^2_{(i)}$	.1519
ti	9	.2611	$\sigma^2_{(oi:t)} + 3 \sigma^2_{(ti)}$	(0.0)
oi:t	20	.2667	$\sigma^2_{(oi:t)}$	.2667
Total	59			

Table E- 15
 Summary of ANOVA on Classroom Ratings of Group III Teachers
 on Domain 5 (Student Misbehavior); Estimated
 Mean Square Equations; Estimated Random Effects Variance Components (EVCs)

Source (α)	df	MS	EMS	EVC [$\sigma^2(\alpha)$]
Teachers (t)	9	5.4815	$\sigma^2_{(oi:t)} + 3\sigma^2_{(ti)} + 2\sigma^2_{(o:t)} + 6\sigma^2_{(t)}$	.6253
Occasions (o):t	20	1.6333	$\sigma^2_{(oi:t)} + 2\sigma^2_{(o:t)}$	.3500
Items (i)	1	13.0667	$\sigma^2_{(oi:t)} + 3\sigma^2_{(ti)} + 30\sigma^2_{(i)}$	.4012
ti	9	1.0296	$\sigma^2_{(oi:t)} + 3\sigma^2_{(ti)}$	.0321
oi:t	20	.4333	$\sigma^2_{(oi:t)}$	.9333
Total	59			

Table E-16
Summary of ANOVA on Student Engagement Percentage Scores of Group I
Definitely On-Task Class Behavior; Estimated Mean Square
Equations; Estimated Random Effects Variance Components (EVCs)

Source (α)	df	MS	EMS	EVC [$\hat{\sigma}^2(\alpha)$]
Teachers (t)	9	.0278	$\sigma^2(o:t) + 3\sigma^2(t)$	.0013
Occasions (o):t	20	.0239	$\sigma^2(o:t)$	.0239
Total	29			

Table E-17
Summary of ANOVA on Student Engagement Percentage Scores of Group II
Definitely On-Task Class Behavior; Estimated Mean Square
Equations; Estimated Random Effects Variance Components (EVCs)

Source (α)	df	MS	EMS	EVC [$\sigma^2(\alpha)$]
Teachers (t)	9	.0418	$\sigma^2(o:t) + 3\sigma^2(t)$	.0070
Occasions (o):t	20	.0206	$\sigma^2(o:t)$	.0206
Total	29			

Table E-18
Summary of ANOVA on Student Engagement Percentage Scores of Group III
Definitely On-Task Class Behavior; Estimated Mean Square
Equations; Estimated Random Effects Variance Components (EVCs)

Source (α)	df	MS	EMS	EVC [$\hat{\sigma}^2(\alpha)$]
Teachers (t)	9	.0862	$\sigma^2_{(o:t)} + 3 \sigma^2_{(t)}$	.0109
Occasions (o):t	20	.0535	$\sigma^2_{(o:t)}$	.0535
Total	29			

Table E-19
Summary of ANOVA on Student Engagement Percentage Scores of Group I
Probably On-Task Class Behavior; Estimated Mean Square
Equations; Estimated Random Effects Variance Components (EVCs)

Source (α)	df	MS	EMS	EVC [$\hat{\sigma}^2(\alpha)$]
Teachers (t)	9	.0074	$\sigma^2(o:t) + 3 \sigma^2(t)$	.0003
Occasions (o):t	20	.0066	$\sigma^2(o:t)$	.0066
Total	29			

Table E-20
Summary of ANOVA on Student Engagement Percentage Scores of Group II
Probable On-Task Class Behavior; Estimated Mean Square
Equations; Estimated Random Effects Variance Components (EVCs)

Source (α)	df	MS	EMS	EVC [$\sigma^2(\alpha)$]
Teachers (t)	9	.0080	$\sigma^2_{(o:t)} + 3 \sigma^2_{(t)}$	(0.0)
Occasions (o):t	20	.0096	$\sigma^2_{(o:t)}$	.0096
Total	29			

Table E-21
 Summary of ANOVA on Student Engagement Percentage Scores of Group III
 Probably On-Task Class Behavior; Estimated Mean Square
 Equations; Estimated Random Effects Variance Components (EVCs)

Source (α)	df	MS	EMS	EVC [$\hat{\sigma}^2(\alpha)$]
Teachers (t)	9	.0054	$\sigma^2(o:t) + 3 \sigma^2(t)$	(0.0)
Occasions (o):t	20	.0088	$\sigma^2(o:t)$	.0088
Total	29			

Table E-22
Summary of ANOVA on Student Engagement Percentage Scores of Group I
Off-Task Class Behavior; Estimated Mean Square
Equations; Estimated Random Effects Variance Components (EVCs)

Source (α)	df	MS	EMS	EVC [$\sigma^2(\alpha)$]
Teachers (t)	9	.0086	$\sigma^2(o:t) + 3 \sigma^2(t)$	.0002
Occasions (o):t	20	.0081	$\sigma^2(o:t)$	.0081
Total	29			

Table E- 23
 Summary of ANOVA on Student Engagement Percentage Scores of Group II
 Off-Task Class Behavior; Estimated Mean Square
 Equations; Estimated Random Effects Variance Components (EVCs)

Source (α)	df	MS	EMS	EVC [$\hat{\sigma}^2(\alpha)$]
Teachers (t)	9	.0373	$\sigma^2(o:t) + 3 \sigma^2(t)$	.0093
Occasions (o):t	20	.0093	$\sigma^2(o:t)$	.0093
Total	29			

Table E-24
 Summary of ANOVA on Student Engagement Percentage Scores of Group III
 Off-Task Class Behavior; Estimated Mean Square
 Equations; Estimated Random Effects Variance Components (EVCs)

Source (α)	df	MS	EMS	EVC [$\sigma^2(\alpha)$]
Teachers (t)	9	.0619	$\sigma^2(o:t) + 3 \sigma^2(t)$	.0094
Occasions (o):t	20	.0338	$\sigma^2(o:t)$	.0338
Total	29			