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THE EFFECT OF PEER COACHING ON THE PRESERVICE TEACHER EDUCATION EARLY FIELD EXPERIENCE PROGRAM

DISSERTATION

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

By

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CHAPTER I

INTRODUCTION

Research indicates that preservice and inservice teachers teach the way they were taught as modeled by their elementary and secondary teachers, and cooperating teachers (Cruickshank, 1985; Andrews, 1967; Tobin & Espineat, 1990; Haberman & Stinnett, 1973). Traditional educational practices such as lecture, teacher directed lessons, and solo teaching/planning, have been demonstrated and modeled in preservice teacher education programs, as well as in the preservice student's classroom experience. From these demonstrations, the preservice teacher incorporates the traditional model as the appropriate procedure in the classroom (Andrews, 1967; Haberman & Stinnett, 1973). The continued encouragement of individual planning and teaching within the preservice teacher education program is an implicit message being sent to future teachers which continues to foster teacher isolation; thus perpetuating the belief that teaching is an isolated activity that occurs behind the classroom's door (Rothberg, 1985; Chrisco, 1989; Glickman, 1990).

Not only are current reformers calling for change, but also within the grassroots movement of teacher educators, a call for teachers to become collaborators, to tear down the role of isolation which has hindered
collaboration (Hillebrand, 1994; Lieberman, 1990; Schlechty, 1989). Teachers are being called upon to take more active roles in the development and implementation of educational policies and programs (Holmes, 1986; Carnegie Forum, 1986; National Council for Accreditation of Teacher Education, 1990). Effective collaboration as defined in the literature, has teachers working together as team members solving problems, functioning as equals, and contributing knowledge and skills to each other (Sileo, Rude, & Luckner, 1988; Vandercook & York, 1990).

If collaboration is the tool for fostering and building collegial relationships necessary for stimulating reform in the school; and if peer coaching is seen as the vehicle for the implementation of collaboration, then peer coaching is a viable and productive method for the improvement of teacher performance in the educational setting. Peer coaching is a collaborative supervision process where teachers talk together, regularly observe each other teach, and give feedback and assistance (Joyce & Showers, 1982; Showers, 1985; Ackland, 1991; Brandt, 1987). Future teachers using the peer coaching model will be prepared to take on the roles called upon by the reform movement: collaboration and professionalism.

Peer coaching has implications for preservice education by producing educators who are able to work collaboratively with high standards of professionalism. This technique is a way to bridge both the
preservice and inservice teachers' professional development and their need to collaborate effectively.

Current research studies on peer coaching have concentrated on the inservice teacher, professional development, and teacher effectiveness. Minimal research has been conducted at the preservice level on the use of peer coaching. The research studies on peer coaching conducted by Pavelich (1992), and Ludlow, Faieta & Wienke (1989), investigated the internship/student teacher as peer coach. The studies of Potthoff & Kline, (1994) found that the topic of early field experience supervision was not well developed in the literature. Two reasons cited in the literature were heavy work and supervision load of teacher educators, and economics (McIntyre, 1984; Bowyer & VanDyke, 1988). The current economics and staffing difficulties within universities and colleges support a need to investigate alternatives for the traditional supervisory model. From the review of literature, peer coaching has been deemed that possible alternative (Joyce & Showers, 1980; 1981; 1982; Joyce and others, 1979; Barnes & Murphy, 1987; Bird & Little, 1983).

The following sections in this chapter describe the background of this study by placing peer coaching within the context of preservice teacher education. It further describes the purpose of the peer coaching investigation, the specific objectives of the study, the definitions that the study entails, and the limitations.
Background

A search for a more effective strategy to assist preservice teachers to achieve collaborative and collegial relationships, and success in the acquisition of teaching skills has led educators to consider peer coaching (Joyce & Showers, 1982; Showers, 1984; Drew, 1989). Peer coaching provides an opportunity to improve teaching skills and add new strategies to the teacher's repertoire based on observation and non-evaluative feedback. The goal of peer coaching is to improve instructional techniques and mastery of teaching skills (Ackland, 1991).

There have been numerous studies and articles on peer coaching over the past twenty years examining the use of this practice within staff development for the inservice teacher. These investigations have supported its effectiveness (Drew, 1989), yet, few studies have been published on peer coaching at the preservice level. Those published on peer coaching at the preservice level have reflected a prescriptive stance rather than a research orientation.

The body of literature reflecting research on peer coaching connects with the clinical supervision model with contrasts in their applications. Clinical supervision is seen as a supervisory process focusing upon the improvement of instruction by means of systematic cycles of planning, observing, and analyzing teaching performance (Weller, 1988). Flanders stated that the goal of clinical supervision was to assist teachers in
modifying existing patterns of instruction. Peer coaching is defined as a collaborative supervision process where teachers talk together, regularly observe each other teach, and give feedback and assistance (Joyce & Showers, 1982; Showers, 1985; Ackland, 1991). This model is representative of the clinical supervision model which typically includes a preconference, an observation, and a post conference (Glickman & Phillips, 1991; Showers, 1985; Karant, 1989; Ludlow, Faieta & Wienke, 1989; Chrisco, 1989).

The clinical supervision model as established by Cogan (1973) outlines a linear progression of supervision. Its components include:

1. establishing the teacher-supervisor relationship
2. planning with the teacher
3. planning the strategy of observation
4. observation of the instruction
5. analyzing the teaching-learning process
6. planning the strategy of the conference
7. conferencing
8. renewed planning

Theoretically, this model is viewed as a flexible process. It may be used in multiple configurations such as teaming with one teacher, or with a group of teachers, or with a supervisor. Its purpose is to stimulate some change in teaching, to show that a change did occur, and compare the old and new methods of instruction, thus permitting the teacher to gain insight into the
instructional process (Weller, 1983). In reality, it is often utilized as a summative tool for assessing preservice/inservice teachers. In contrast, peer coaching is used as a formative tool.

A further contrast is that the traditional clinical model tends to be reactive rather than proactive. The supervisor provides the principal with the necessary observational information concerning preservice teachers’ schedules and an overview of field experiences. The supervisor assists with student placements, and arranges for the monitoring of preservice teachers’ attendance (Potthoff & Kline, 1994). The supervisor visits the school on an “as needed” basis. Participants spend all available time in the classroom with the cooperating teacher. The supervisor’s role is that of evaluator which grants power to the supervisor rather than the teacher. The issue of power is critical in the traditional model (Ackland, 1991). The preservice teacher receives an evaluation from an expert, either the supervisor or the cooperating teacher. Normally, this is in the form of direct instruction: ways to improve instruction utilizing the deficit model, a delineation of the preservice/inservice teacher’s weaknesses or problems (Smylie & Conyers, 1991) and instructions for correcting deficits. In contrast, the peer coach is not a traditional supervisor or an evaluator, but a peer, a collaborator and a facilitator whose role is to assist and to build on knowledge and skills.

This dichotomy between the traditional clinical model and peer coaching is particularly evident in the research addressing peer coaching.
processes. This research further draws a contrast between preservice and inservice educators; whereby research for the preservice teacher was found to be prescriptive, evaluative, and directive in approach (Peterson & Hudson, 1989; Ludlow, Faieta, & Wienke, 1989); whereas, peer coaching literature for the inservice teacher was found to be collaborative, non-evaluative, and collegial (Showers, 1985). Peer coaching, as defined in the literature, is a nonevaluative, nonjudgmental process fostering a positive atmosphere designed to be formative and ongoing, thus permitting the teacher to become more effective in teaching techniques (Batesky, 1991).

Joyce & Showers’ (1980) research demonstrated the need for continuous practice, feedback and companionship for coaches before a change in teacher’s repertoire of skills occurred; therefore, the implementation of peer coaching in a preservice teacher education program would provide opportunity, assistance, and feedback leading to the internalization of skills being presented to or learned by the preservice student. Anastos and Ancowitz (1987) found that teachers needed considerable time in peer coaching sessions to express feelings about previous observations and a debriefing to express feelings about previous supervision. This was a means of building trust within the group and giving teachers opportunities to further explore teacher empowerment.

Currently, peer coaching is being used for professional development within the inservice teacher community (Skoog, 1980; Showers, 1985;
Little, 1982; Hendrickson, 1988). Peer coaching at the inservice level is being used to improve instructional techniques (Joyce & Showers, 1982; Showers, 1985; Mello, 1984), to further develop teacher skills (Sparks, 1986; Peterson & Hudson, 1989), and to implement effective teaching strategies (Showers, 1985) which is yielding greater satisfaction with the teaching process by the inservice teachers.

Questionnaires administered by Joyce (1985) to participants following peer coaching training seminars have been positive and cite the development of collegial relationships among teachers as being one of the benefits of coaching. This collegiality leads to collaborative meetings in which professional growth and dialogue occur (Joyce & Showers, 1982; Showers, 1985). The development of a professional dialogue permits teachers to establish a common language for conversing about teaching (Chrisco, 1989; Raney & Robbins, 1989). These findings suggest teaching needs to be a collaborative activity where teachers work and learn together on how to be more successful in their classrooms, rather than an individual activity that tends to separate teacher from teacher, and subject from subject. (Smylie & Conyers, 1991).

By maintaining professional dialogue in the school community a common language is established which leads to professional growth among the educators (Chrisco, 1989; Raney & Robbins, 1989). This professional dialogue may consist of teaching techniques and strategies leading to more effective teaching. Research efforts to identify teacher skills
deemed to be effective looked for behaviors which promoted student achievement (Cruickshank, 1985). A review of the literature on teacher effectiveness during the 1970s and 1980s, focused on the identification of skills that were present when pupils were succeeding (Rosenshine & Furst, 1971; Dunkin & Biddle, 1974; Emmer & Evertson, 1982; Brophy, 1979), and the variable present in the different studies was teacher clarity. It was found that teacher clarity was observable and measurable in these studies (Hines, 1981; Hamilton, 1988; Giebelhaus, 1993, 1994). By teachers observing each other, bridges were built which fostered professional growth, and opened up lines of communication which led to a common language for dialoguing about teaching (Chrisco, 1989; Raney & Robbins, 1989).

The development of a common language, professional growth, and collaborative activity has come about from two methods being implemented at the inservice teacher level for peer coaching: coaching by experts and reciprocal coaching. The coaching by experts model utilizes trained teachers to observe teachers, give support, feedback, and make suggestions. Expert teachers may be classified as veterans or individuals who have attended workshops focusing on effective coaching methods or specific instructional techniques (Moffett, St. John, & Isken, 1987). One example is the Instructional Management Program (IMP) of the Far West Laboratory for Educational Research and Development (Lee, 1991). From this the PAL (Peer Assisted Leadership) program evolved for the training of administrators to work in peer partnerships. This coaching method has
been utilized in a variety of areas: content subjects such as reading, management, and instructional techniques as in cooperative learning, to name a few examples.

The second method for peer coaching, reciprocal coaching, involves teachers observing and collaborating about teaching. The team may consist of two or more individuals who wish to work together on an instructional technique or as a support group. Reciprocal coaching used in ESL (English as a second language) classes refined teacher effectiveness behaviors, and introduced new instructional models to the teachers. The training process consisted of a seminar held by experts for the training of future coaches. Following the seminars, the peer coaching team's responsibility was to guide and assist each other in this process by encouraging teacher collaboration. From questionnaires and observational forms completed by inservice teachers following their participation in either peer coaching session, a positive attitude was manifested toward teaching and peer coaching (Joyce & Showers, 1982).

Within most preservice teacher education programs collaboration is not a part of the training. Although research has been conducted on professional development of teachers in the peer coaching role, little research has been done on peer coaching at the preservice level. Peer coaching permits the preservice teacher to begin working as a team member in a supportive, non-threatening environment. The preservice teacher is assisting and guiding another in pedagogical content, as well as,
growing professionally through observation and feedback. Research corroborates what teachers have been saying about the process of learning and particularly following involvement in peer coaching; that an individual learns more when teaching another than when being taught (Brooks, 1984; Wang, Haertel, & Walberg, 1994). Peer coaching permits active involvement with the learning process (Joyce & Showers, 1983; Showers, 1984). Given these aspects of peer coaching in the research literature the focus now turns to the specifics of the current investigation.

Purpose and Objectives of the Study

The purpose of the study was to determine whether preservice teacher education students participating in a peer coaching seminar would demonstrate greater clarity skill in the elementary classroom than a preservice teacher education students not participating in a peer coaching seminar. A secondary purpose was to determine the nature of the content discussion of post conferences between peer coached groups and nonpeer coached groups. Finally, the study attempted to ascertain the level of satisfaction in the field experience by both the peer group and the nonpeer group.

The study's objectives were to: a) investigate the effect peer coaching had upon the acquisition of clarity skills; b) determine content topics in post conferences; and c) denote level of student satisfaction
within the field experience. The following questions guided this investigation.

1. When a peer coaching program is implemented within a preservice teacher education program, do peer coached preservice teachers demonstrate clarity behaviors more frequently than uncoached preservice teachers?

2. When a peer coaching program is implemented within a preservice program, what are the similarities and differences of post conference discussions of preservice education students participating in a peer coaching program and those not participating in the program?
   a. What is the content of the discussion?
   b. What is the frequency of the content?

3. When a peer coaching program is implemented within a preservice teacher education program, what is the attitude of the preservice teacher in a peer coaching program and those not participating in a peer coaching program?
   a. Do preservice teachers feel supported?
   b. Do preservice teachers feel assisted with technical feedback?
c. Do preservice teachers feel assisted with lesson planning?

d. Do preservice teachers feel assisted in adapting the clarity model to the class.

e. Do preservice teachers feel personal growth?

f. How do preservice teachers rate the field experience?

Definition of Terms

A number of terms are used in this investigation. Following are the definitions for these terms.

**Peer coaching** - a process or action where two preservice teachers meet regularly for problem solving using planning, observation, feedback, and creative thinking for the development of a specific skill (Joyce & Showers, 1980, 1981, 1987; LeBlanc, 1987).

**Teacher clarity behaviors**, (the skill) - a cluster of teacher behaviors that result in learners gaining knowledge or understanding of a topic (Cruickshank and Kennedy, 1986).

Within the peer coaching process are four components; each defined below: preconference, observation, feedback, and postconference.

**Preconference** - an arranged time prior to observation establishing the purpose and the planning of the lesson to be observed (Robbins, 1991).
Observation - a set time when a preservice teacher views or studies the activities of teaching and learning in an actual school situation for a more realistic idea of educational problems, for praise of teacher’s action, or for feedback to be used in the development and/or the improvement of a program (Good, 1983).

Feedback - an exchange of information in communication or problem-solving situation (Good, 1983).

Post conference - an arranged time established after observation to discuss data collected and give feedback on data collected (Robbins, 1991).

The two groups of teachers who have been involved in the peer coaching process are inservice and preservice.

Inservice teacher - a trained professional certified to teach by a State Department of Education.

Preservice teacher - a student enrolled in a teacher education program either at a college or university for the specific purpose of obtaining certification for teaching.

Limitations

Within the design of this study, three limitations are evident. They concern the validity of self reporting, potential contamination, and time constraints. The first limitation addresses the questionnaire used for the
survey. It is self-reporting of information and is subject to bias based upon
student perceptions. The subjects, being aware of their participation in a
study, may guide their responses to be ones that the researcher wants. On
the other hand, the subjects may wish to not reveal their true feelings about
a given situation believing they are being judged on their responses. The
second limitation is the issue of contamination of the results. The potential
exists for subjects from each of the two groups to have conversed with each
other outside of the seminar. The third limitation is the issue of time. The
treatment was administered during an intense seven week program.
Research states that the acquisition of a skill may take up to six months or
seventeen practices before it is internalized (Joyce & Showers, 1981;
Theis-Sprinthall, 1991), thus supporting the issue of practicing the skill.
CHAPTER II
REVIEW OF RELATED LITERATURE

Introduction

This chapter presents peer coaching as a technique which traces its development from the literature on professional development within teacher inservice to its application in preservice teacher education programs. It has been used as a vehicle for the development of collegial relationships and nesting the idea of peer coaching within the clinical supervision model. The researcher will turn first to the review of research on clinical supervision (the model), proceed to the research on teacher clarity (the skill), and conclude with peer coaching (the strategy).

Clinical Supervision

Over the past years, supervision of preservice students has received much attention. The common concern focuses on the increased emphasis placed upon early field experience. The rationale for early field experience is to acquaint the preservice student with real life experiences and to
observe master teachers in action, thus connecting the theory being taught to the practice and application in the classroom. Students then receive constructive feedback from the cooperating teacher and supervisor concerning their teaching experience (Giebelhaus, 1993).

A critical issue is feedback being given to the preservice student by the supervisor. Feedback is a reinforcement about the accuracy or appropriateness of a response and is linked to student learning (Brophy & Good, 1986; Rosenshine & Stevens, 1986). There are four essential characteristics of effective feedback: it is specific, it is immediate, it depends on performance, and it provides corrective information (Peterson & Walberg, 1979). By the nature of the traditional supervision model, one supervisor for 12 or 15 students, immediate feedback is impossible. Therefore, the inability of the supervisor to provide immediate and simultaneous reinforcement is a limitation to the clinical supervision model. The following sections will examine the development of the clinical supervision model, its applications, and barriers to its use.

Anderson (1992) synthesized previous models and classified them into five related categories: (1) traditional model where the university supervisor’s role is to observe the preservice students, consult with the cooperating teacher and formally assess the student’s effectiveness in relation to the program objectives; (2) modified traditional model where the university supervisor’s role is to cluster student teachers at one site to enhance coordination efforts; (3) clinical professor model where the
university supervisor and classroom teacher/educator work with both teachers and students while providing inservice activities on site; (4) teacher adjunct model where the university supervisor maintains contact with the cooperating teacher, but does not directly supervise the progress of the student, the role is one of a liaison and coordinating service and; (5) master teacher/apprentice model where the role of the university supervisor does not exist, but the duties include recording the final grade. Zimpher and Howey (1987) in a synthesis of supervisory practices identified three general models of supervision: clinical, developmental, and counseling. These models yielded four criteria for assessing teacher competencies: technical, clinical, personal, and critical. These competencies are contained within processes of supervision including identification of problems, observation, feedback, coaching, and recycling.

Each competency reflects a different supervision role. Technical competence emphasizes skill development or the mastery of instructional methods or skills. Clinical competence emphasizes inquiry and reflection, linking theory and practice to problem solving. Supervisors emphasizing personal competence foster self-awareness, identity formation, and promote interpersonal behaviors. While critical competence emphasizes problem solving and decision making. (Keller & Grossman, 1994).

Clinical supervision is seen as a supervisory process focusing upon the improvement of instruction by means of systematic cycles of planning, observing, and analyzing teaching performance (Weller, 1983). Hopkins
and Moore (1993) stated the goal of clinical supervision was to assist teachers in modifying existing patterns of instruction. The intent of this section is to provide an overview of the research on the clinical supervision model. The clinical supervision model or a variation of it as cited in the review of literature, is used in the student teaching field experience. Researchers cite the importance of having a method that delineates supervision (Valencia & Killion, 1988; Glickman & Phillips, 1991; Showers, 1985; Karant, 1989; Ludlow, Faieta & Wienke, 1989; Chrisco, 1989; Busher, 1994; Elliott & Lynne, 1985; Hopkins & Moore, 1993).

Cogan (1973) developed the clinical supervision model. His model consisted of eight phases establishing a linear progression within supervision:

1. establishing the teacher-supervisor relationship
2. planning with the teacher
3. planning the strategy of observation
4. observation of the instruction
5. analyzing the teaching-learning process
6. planning the strategy of the conference
7. conference
8. renewed planning

Theoretically, this model is a flexible process. It may be used with one teacher or with a group of teachers working as a team with a supervisor. Its purpose is to stimulate some change in teaching, to show a change did
occur, and compare the old and new methods of instruction, thus permitting the teacher to gain insight into the instructional process (Weller, 1983). In reality it has become an evaluative tool for assessing preservice teachers.

Currently, the college supervisor is responsible for multiple student teachers making it impossible for him/her to observe or critique students in any depth (Meade, 1991). The cooperating teacher is the second supervisor for the student teacher, but in most cases the cooperating teacher has had little or no training in how to supervise, mentor or be a clinician. The major problem evolves from the lack of communication between the triad; the student teacher, the supervisor, and the cooperating teacher (Hoover, O'Shea & Carroll, 1988).

The traditional clinical model is often reactive rather than proactive (Hoover, O'Shea & Carroll, 1988). This is maintained by the traditional role of the supervisor as evaluator within the conference. Normally, feedback is in the form of directed instructions: ways to correct instruction utilizing the deficit model; preservice/inservice teacher's weaknesses or problems (Smylie & Conyers, 1991); and who is expected to correct these deficits. O'Neal and Edwards (1983) analyzed cooperating teacher-student teacher conferences and found the cooperating teachers dominated the conference doing 72% of the talking. The focused topics were specific teaching events, rather than on teaching in general; methods and materials of instruction, and craft knowledge.
Hoover, O'Shea and Carroll (1988) found a major limitation in the clinical supervision model which was communication. It was found that student teachers took a passive role in receiving descriptive and prescriptive strategies for improvement from the cooperating teacher. Further, conferences with university supervisors were found to be infrequent and usually occurred at the end of the student teaching experience (Killian & McIntyre, 1988)

The concept of the expert-novice can be found occurring in these studies. The supervisor having more power and status than the preservice teacher is looked upon for instruction and direction. Expert-novice approach is a transmission model of learning, whereby, the expert transfers knowledge and skills to the novice. In theory, the expert engages the novice in active learning as they work together to solve problems or engage in dialoguing (Daiute and Dalton, 1993). In this process, the expert is to guide the participant and gradually give control to the novice as competence is gained. The issue of power is critical in this model (Ackland, 1991). In practice, the preservice teacher receives an evaluation from an expert, either supervisor or cooperating teacher, which is directed or prescriptive. This approach as studied by Tabachnick et al. (1979) found that active learning was nonexistent on the part of the novice. Problem solving and reflection diminish because there is no exchange of knowledge or collaboration. The novice does not question the expert because of status of each within the conference.
Richardson-Koehler (1988) found in her study that three barriers hindered the clinical supervision model. The first was teacher's beliefs related to learning from experience. This belief perpetuates the concept of teacher isolation and individualism and excludes the implementation of collaboration. The second was an unwillingness of the cooperating teacher to engage in reflection. This contributed to the type of feedback given to the student teacher. The third was the university supervisor's time constraints.

Summary

The clinical supervision model is a flexible model. It may be used with one teacher or with a group of teachers working as a team. Its purpose is to stimulate change in teaching, to show a change did occur, and to compare the old and new methods of instruction in order to gain insight into the instructional process (Weller, 1988). To have the clinical supervision model be an effective instrument, a trust relationship must be established between the supervisor, the preservice teacher, and the cooperating teacher. Without this relationship, collaboration, reflective feedback, and supportive environment, will not occur, thus diminishing the effectiveness of the clinical model.
Teacher Clarity

The goal of education is student achievement and student satisfaction. A search to find what constitutes these two outcomes for students has brought the teacher clarity behavior model to surface. The preservice teacher enters the program with a limited knowledge of pedagogy and training. To equip these students with repertoires which can be used readily and easily trainable for the process of teaching, once again the researcher turned to the teacher clarity model. Effective training techniques have been and will continue to be investigated to determine which skills bring the greatest student outcome.

Research efforts to identify teacher skills deemed to be effective began as early as 1900 (Keller, Laut, Rauschenbach, & Bowman, 1992; Charters & Waples, 1929). These early efforts mostly looked for relationships between administration ratings of teaching and teacher traits, characteristics, or personality factors such as gender, marital status, intelligence, buoyancy, enthusiasm and emotional stability, among others (Cruickshank, 1985). Although inquiry of this type persisted for over a half a century, the results of this early era of teacher effectiveness research were disappointing (Metcalf, 1989). As Howsam (1960) stated:

Few, if any, factors are now deemed established about teacher effectiveness and many former findings have been repudiated. It is not an exaggeration to say that we do not know today how to select, train for, encourage, or evaluate teacher effectiveness. (p. 11)
Beginning with the 1960s, a flurry of research related to teaching and schooling was published under the title of Equality of Educational Opportunity by the U.S. Department of Health, Education, and Welfare (Cruickshank, 1990). This report commonly called the Coleman Report (1966) concluded that schools and teachers did not make much of a difference in the achievement of students. The response to the Coleman Report began the second era of research looking at the relationship between teacher behavior and student learning. This second era, often called "process-product" research teacher behavior-student learning, has and continues to provide much knowledge of behaviors and practices common to teachers whose learners achieve at higher levels (Metcalf, 1989).

A review of research on teacher effectiveness during the 1970s and 1980s focused on the identification of skills that were present or operative when pupils were succeeding. Rosenshine and Furst (1971) identified teacher behaviors consistently associated with pupil learning. Gage (1972) identified correlates of teaching effectiveness that could be included in a Stanford University experimental teacher education program. Dunkin and Biddle (1974) produced a non-technical textbook on teaching based on the findings of research rather than on common sense and personal beliefs. Cruickshank (1976) compared and contrasted results of relatively large-scale research on teaching. Medley (1977) provided teacher educators access to the research-based findings about effective teaching. Borich
(1979) reported the most practical implications for teacher education based on five process-product studies investigating relationships between teacher behaviors and elementary school pupil achievement on standardized tests on reading and math. Good (1979) summarized what is known about effectiveness among elementary school teachers. Emmer and Evertson (1982) identified what is known about the behavior of teachers who are effective classroom managers. Stallings (1982) reviewed studies that isolated effective strategies for helping low achieving secondary school pupils. Porter and Brophy (1988) synthesized research on good teaching that emphasized the work of the Institute for Research on Teaching at Michigan State University.

One of the premises of peer coaching is the need to introduce, demonstrate, and practice the theory being studied by the group. In this investigation the theory being presented to the preservice student is the theory of teacher clarity. The review of the literature by Hamilton (1988), Hines (1981), Hines, Kennedy, & Cruickshank (1985), Williams (1983), Metcalf (1989), and Giebelhaus (1993), all concur that student outcome is linked to the variable of teacher clarity. These studies also address the issue of observability and measurability of teacher clarity.

The Hines (1981) study contains the development of several instruments for the purpose of observing and rating teacher clarity. Two trained raters viewed 23 videotapes of students participating in Reflective Teaching Lessons (Cruickshank et al., 1981). These are clinical, laboratory
peer teaching sessions. The observation instrument was divided into two sections. Part I was used to record frequency of behavior, while Part II was a rating of the student’s performance. The instrument consisted of 29 statements describing teaching behaviors, with 28 behaviors being identified as low inference behaviors (Bush et al., 1977; Kennedy et al., 1978). The results indicated that the instrument was reliable, with a generalizability coefficient of .97 for both frequency and ratings. Similar reliability estimates were replicated by Hines, Kennedy and Cruickshank (1985).

In a study by Williams (1983), a modification of Hines’ (1981) instrument was developed and implemented. Reflective Teaching Lessons (Cruickshank et al., 1981) were used for this study. A high level of consistency over teachers, behaviors, and observers was found for the overall reliability of the adapted instrument.

Using the Hines (1981) instrument, Larsen (1985) adapted the instrument in order to reduce training time. This study looked at teacher clarity in a naturalistic setting. The classroom contained 32 mathematics student teachers. Larsen’s study included a Likert scale for rating the clarity behaviors. This version also was found to be a reliable method of evaluating teacher clarity.

Hamilton (1988) used a modified version of Hines (1981) to study the observability and measurability of teacher clarity. This study used videotaped lessons of all grade levels and all subject areas situated in a
natural classroom setting and viewed by trained raters. Hamilton reported high reliability with coefficients ranging from $r=.75$ on low inference frequency measures to $r=.91$ on moderate to high inference ratings. From further investigation and analysis, Hamilton found that subject matter had no significant effect on teacher clarity.

Giebelhaus (1993) used the Bug in the Ear, a mechanical or electronic device used for communication between the cooperating teacher and the student teacher, as a means of cueing student teachers during the actual teaching phase. It was found that the use of teacher clarity skills were an appropriate variable because of their observability and measurability. The clarity skills were successfully cued and responded to by the student teacher.

**Summary**

As the preparation of teachers progress through the 1990s, efforts to identify skills critical to teaching hold promise for developing a foundation for the preservice teacher education curriculum, a commonality between universities and practicing peers, and a focus for the direction of education. With the codifying of a knowledge base, and the identifying of critical teaching skills, teacher educators are in a position to establish a uniformed preservice teacher education curriculum which would better prepare teachers to meet the challenges set forth by the education community.
Peer Coaching

Vygotsky's (1978) work offers a theoretical context for studying peer collaboration. His theory cites that thinking occurs interpersonally and intrapersonally. The former involves interactions of individuals in social contexts; whereas the latter occurs within the mind of the individual.

"Every function in the child’s cultural development appears twice: first, on the social level, and later, on the individual level; first between people (interpsychological), and then inside the child (intrapsychological)...All the higher functions originate as actual relations between human individuals." (Vygotsky, 1978, p. 57).

Vygotsky viewed development as a social process: one’s interaction with others and learning to use the tools of the culture. The construction of meaning occurs first as exchanges between two individuals and is internalized. He views the zone of proximal development as the distance between the individual’s actual development when working individually on a task and the individual’s potential level of development when working in collaboration with an adult or more capable peer. According to Vygotsky’s theory an individual is capable of performing at a higher level with a partner who has more knowledge and can model the culturally acceptable way of doing a task. The movement from interpsychological to intrapsychological occurs in the zone of proximal development.
When peer teaming occurs there is an expert and a novice working together. The role of the expert is to help the novice move through the zone of proximal development (ZPD). Through the social interaction of discussion active learning evolves. Each takes the information presented, interprets, transforms, and internalizes the new knowledge according to understandings based upon experiences. According to Piaget, the student is assimilating or accommodating this new information into a scheme in order to gain or maintain equilibrium (Eggen & Kauchak, 1993), and Wells (1986) states that the student is making meaning of the situation.

Fischer (1980) found that peers do offer support that extends the zone of proximal development and that even low support from a peer assisted an individual’s growth. Research by Daiute and Dalton (1993) found a child may not work to his/her optimal potential because of the peer’s limited abilities, but growth was found to occur.

Vygotsky cited learning and development as occurring through the process of internalization based on collective thinking during collaboration. The end point of this process was seen to be sign development or meaning making by the individual. Speech is seen to be an important element of sign development because it mediates a relationship between task and the individual’s knowledge. Activity and interaction, serve as the support of the thinking process which leads to reflection.

Daiute & Dalton (1993) found peer talk and activity, interacting together, engaged the subjects in cognitive advancement of knowledge and
performance. As collaborators talk, they in turn are reflecting upon what they are doing. The social setting of collaboration provides the opportunity for peers to think aloud and examine their thoughts. The presence of a partner requires verbal interaction about the task at hand and this in turn permits them to analyze their verbalization or external thinking. By hearing another's perspectives, comparing understandings, and reflecting, the subject is able to refine and develop perspective. The individual not only learns about strengths, but also models these strengths for others (Dale, 1994). This development occurs through practice with a peer using the collaborative model (Barnett & Bayne, 1992; Hillebrand, 1994). Practice and feedback are the sparks for this dynamic process.

A goal of coaching is to build communities of teachers and collaboration. These communities develop a shared language and a set of common understandings needed for the knowledge/skill of teaching. There is an agreement among teachers that curriculum and instruction need continuous improvement or upgrading, and that teacher repertoire needs to be expanded (Showers, 1985; Garmston, 1987; Skoog, 1980; Hendrickson, 1988). Peer coaching also provides a structure for follow-up to training sessions. This follow-up is what is essential for the individual to acquire new teaching skills and strategies and to bring about changes to a teacher's repertoire of skills (Showers, 1985). For the acquisition of skills or strategies to be effective, feedback and practice are important and peer coaching affords this continuous process.
A global definition of collaboration is working jointly with others, to cooperate, and labor together (Maguire, 1994). Within the educational literature, collaboration has come to mean a process of problem solving by a team of members, each contributing his/her knowledge and skills, and each being viewed as an equal (Sileo, Rude, & Luckner, 1988; Vandercook & York, 1990). There are four types of skills needed by team members in order to achieve collaboration: exchanging information, problem solving, making decisions by consensus, and resolving conflicts (Maguire, 1994).

Participation in collaborative groups expands a teacher's expertise by increasing professional dialogue (Shulman, 1987; Glickman, 1985; Sparks, 1992). The building of professional dialogue gives educators a common language about teaching (Chrisco, 1988; Raney & Robbins, 1989). A teacher is a member of a scholarly community (Shulman, 1987) and must understand the structures of subject matters, the principles or organization, and the principles of inquiry. The teacher must have not only depth of understanding with the respective subjects, but also a broad liberal education that serves as a framework of prior learning and as a facilitator for new understanding (Shulman, 1987; Cruickshank, 1985). A paraphrase of Fenstermacher on this notion is that the teacher knows something not understood by others (students). Next, the teacher transforms understanding, performance skills, or desired attitudes into pedagogical representations and actions. These are seen as ways of talking, showing, enacting, or otherwise representing ideas so that the student can come to
know, those without understanding can comprehend, and the unskilled can become adept.

A teacher’s knowledge base needs to encompass the methods and strategies of instruction as well as the purposes of instruction. By sharing in a common dialogue teachers are able to extend their knowledge base and end the isolation philosophy so often found in the teacher’s work place (Sarason, 1971, Glickman, 1985, 1981). Collaboration gives teachers a forum for testing new ideas about instruction or teaching (Lortie, 1975). Lastly, collaboration gives autonomy (Wildeman & Niles, 1987; Gilman, 1988), granting the teacher control over the specifics of topics.

Studies by Leggett & Hoyle (1987), demonstrated that collaboration needed to occur in a supportive environment, and that teachers can initiate and facilitate collaboration in the school setting. In the Keystone Project, expert staff taught teachers the skills necessary for collaboration in the “Lab School”. Participant’s selection was based on a writing sample, an interview, a willingness to work and share, and an actual teaching tape. Participants learned to work together in planning and implementing curriculum, in teaching other teachers, and in observing and coaching each other. Teachers who completed the program returned to their schools and participated as either a cadre trainer, formal role of trainer, or a demonstration teacher. This study found a diminution of teachers’ feelings of isolation, a sharing of pedagogical knowledge, growth of professional dialoguing, and an establishing of mentors.
As a result of teacher collaboration, further research is being conducted in student collaboration. The benefits of collaboration for teachers and students are being demonstrated daily in the classroom. For example, peer collaboration within the classroom has been shown to increase student achievement in writing (Daiute & Dalton, 1989, Dyson, 1988), social studies, mathematics and problem solving (Johnson & Johnson, 1979; Slavin, 1985). Daiute & Dalton (1988) found that when students collaborated on writing tasks, an examination of individual knowledge and beliefs came about as each were required to repeat, clarify, expand, and justify their proposals and evaluations. This leads both the teacher and the student to come to new comprehension, according to Fenstermacher (1979) and Shulman, (1987).

**Peer Coaching Purposes, Styles, and Program Designs**

The three functions most often cited for peer coaching are technical coaching, collegial coaching, and challenge coaching (Garmston 1987). Each has positive and negative application, but when selecting, one needs to understand the philosophy of each and select the one which best applies to the teaching environment and staff using the approach.

The technical coaching model assists in the transfer of skills to the classroom. A teacher is taught a specific skill in a workshop followed by practice with a peer coach. The benefits of this model is the implementation and experimentation of new instructional techniques in the classroom. This
evaluative nature. Using the clinical supervisory model, the peer coach is put into the role of evaluator which goes contrary to the philosophical beliefs of peer coaching.

The second model is collegial coaching. This, too, builds professional dialogue, but the focus is not on the workshop skill, but what the teacher wants the peer coach to observe. The coach helps the teacher interpret, analyze and reflect upon his/her instructional decisions. The purpose of this model is to foster reflectivity. Peer coaches for this model are trained in cognitive processes. The drawback to this model is the cost of training. The teacher is trained prior to coaching and has follow-up sessions. The training program is to help the coach refine skills.

The third model is challenge coaching. This approach is designed to help teams of teachers resolve persistent problems in instructional practice. This model begins with the identification of the problem or the identification of a goal by the team members. This is a team approach rather than a pair approach as found in technical or collegial coaching. Professional dialogue and problem solving are the focus of this model.

Researchers have demonstrated that people master new skills best when placed in coaching situations (Joyce & Showers, 1985; Little, 1982; Munro & Elliott, 1989). It was also found in the Winchester project that the addition of coaching to staff development activities guaranteed the implementation of trained skills (Browning, 1989). Peer coaching complements and supports existing endeavors, but peer coaching by itself
is not as powerful without the paralleling of instructional or curricular projects. Coaching helps schools be more effective by promoting professional dialogue, collaboration, empowerment, and professional growth in a supportive nonthreatening environment (Garmston, 1987; Schetatini, 1989).

Within these functions are two peer coaching styles: coaching by experts and reciprocal coaching. The coaching by experts style utilizes individuals who are specially trained teachers to observe other teachers, give support, feedback, and make suggestions. Expert teachers may be classified as veterans or individuals who attend workshops focusing on effective coaching methods or specific instructional techniques (Moffett, St. John, & Isken, 1987; Mandeville & Rivers, 1989). Following the completion of the workshop, these individuals become consultants. They train others to be peer coaches. They may be called “teaching advisors” (Little, 1985), “cadre trainers” or “demonstration teachers” (Leggett & Hoyle, 1987). Research studies using expert teachers have been conducted by the following on numerous topics: interactive teaching (Little, 1982); models of instruction (Showers, 1984); reading instruction (Kurth, 1985); classroom management (Servatius & Young, 1985); effective teaching (Grimmett, 1987); and assisting new teachers (Moffett, St. John & Isken, 1987; Raney & Robbins, 1989). Coaching methods have been utilized with positive results in a variety of subject areas: reading, science, and math just to name a few.
A program which has been used extensively across the country is the Instructional Management Program (IMP) of the Far West Laboratory for Educational Research and Development (Lee, 1991). From this the PAL (Peer Assisted Leadership) program evolved for the training of administrators to work in peer partnerships. Principals are teamed with other principals to help alleviate the isolation of the job (build collegiality), and to implement newly acquired skills.

The second style is reciprocal coaching. This form of coaching involves teachers observing each other teaching, and collaborating together about teaching. The team may consist of two or more individuals who wish to work together on an instructional technique, a technical problem, or a support group. This coaching method has been used in ESL classes, refinement of teacher effectiveness behaviors, and introduction of instructional models. Proponents for reciprocal coaching are numerous. Research studies supporting its application in the education setting include the following: instructional improvement (Joyce & Showers, 1982; Mello, 1984; Zide & LeBlanc, 1987; Anastos & Ancowitz, 1987; Chrisko, 1989; Galbo, 1989); classroom management (LeBlanc & Zide, 1987); effective teaching techniques (Phelps & Wright, 1986; Sparks, 1986). A seminar is held to train the coaches, but when the expert leaves, the coaching team is to guide and assist the group in the coaching process. This encourages teachers to work together, focus on the new skill, and to learn from one
another (Chrisco, 1989; Raney & Robbins, 1989) by implementing the techniques learned through the training sessions.

Training of Peer Coaches and Program Evaluation

The training regiment is essential for effective peer coaching. The individuals study the new skill, observe demonstrations, practice the skill, and provide feedback. During this time all individuals are learning how to be a coach on an equal status. Participation occurs in multiple demonstrations and feedback sessions. Feedback must be accurate, specific and non-evaluative. Individuals prepare lessons for peers and present them to their partner. After three weeks there is a large group session discussing progress, problems, and complications. Peer coaching is a cyclical process designed to be an extension of the training session. The coaching conferences take on the form of collaborative problem-solving sessions with joint planning of lessons and discussions (Pavelich, 1992, Showers, 1985; Skoog, 1980; Hendrickson, 1988). As the individual progresses in the training, more emphasis is placed upon the coaching process rather than the training of the skill or strategy.

The Georgia study (Phillips & Glickman, 1991) involved teachers in peer coaching for the purpose of stimulating cognitive development. The coaching program was divided into two parts (1) learning the peer coaching process, and (2) participating in four peer coaching cycles each lasting two
weeks. The Theis-Sprinthall's Guidelines for Stimulating Cognitive Development were used for the framework.

Stage one involved role taking experiences. The guideline stated that individuals needed to be placed in role taking experiences which stretched their functioning, but not beyond their current preferred style. To align this with the peer coaching program, teachers were assigned two roles: coach and "coachee". This was to put the teacher in two different roles seeking dissonance. Stage two consisted of guided reflection. For the peer coaching program, there existed observation, data collection, post-conference and feedback. Stage three was a balance between real experiences and discussion/reflection. The peer coaching program offered the four staff development session with discussion, guided practice and reflection on the practice. The clinical supervision model already has this built into the model: preconference, observation, and post-conference. Stage four was personal support and challenge. Within the peer coaching program support is built into the staff development sessions and group sessions. Stage five was continuity. Theis-Sprinthall's guidelines state a minimum of six months is required for the transfer of cognition. The peer coaching program extended over a seven month period.

The results from the Georgia study support the use of peer coaching. The training provided professional dialoguing. The focus of the dialoguing was in the specifics of teaching: developing new insights about the teaching process and gaining new ideas/information. Teachers became
more creative and more willing to be risk-takers because of the support from coaching.

Training was described in five components (Joyce & Showers, 1981): knowledge, demonstration, practice, feedback, and coaching. The first component, knowledge, referred to presentations, lectures, readings and discussions, or a rationale for the theory. The second component was demonstration where the teacher models the skill being presented. The third component was practice which led to feedback and finally the integration of coaching to the process. This would include an analysis of the appropriateness of the skill modeled. It was found that if lecture was only used in the presentation of a theory then low classroom application resulted. With the addition of demonstration, practice, feedback and coaching high classroom application was produced.

Even though two groups went through an identical initial training session, the coached individuals developed greater skill (Showers, 1985). Those who were coached also used the new strategies more appropriately, and exhibited greater long-term retention of knowledge about the skill. They also exhibited clearer cognition with regard to the purpose and use of the new strategies while demonstrating and giving the rationale of the new strategy to their students. Hendrickson (1988) found those coached developed habits of self-initiated reflection. The individuals who participated as coaches acknowledged receiving more knowledge about the skill from observing than from feedback of own teaching. Skoog's
(1980) study cited valuable data and assistance from colleagues led to improvement of teaching, establishment of supportive relationships, and more collaborative discussions about teaching.

Researchers (Pavelich, 1992; Showers, 1985; Skoog, 1980; Hendrickson, 1988) found that the chief barriers to the success of peer coaching were time, money, school structure, and the intensive training sessions. Teachers needed release time to participate in the seminars and observations; therefore, substitute teachers were hired adding to the cost of the project. Also, the school’s structure was not conducive to the essential practice and observational scheduling. In order for the seminars to be held, teachers came in prior to the school day starting or remained after the completion of the school day. To maximize time, seminars were intense and short lived. Even with these obstacles, the participants in the studies felt that the process of coaching was very important for them and their school community.

Peer Coaching as a Strategy for Professional Development

Peer coaching has been defined as the process in which teams of teachers regularly observe each other, provide support, companionship, feedback, and assistance (Ackland, 1991; Valencia & Killion, 1988; Showers, 1985; Hendrickson, 1988; Joyce & Showers, 1982). The process of coaching involves companionship, technical feedback, analysis of application, adaptation to students and personal facilitation (Showers,
Peer coaching permits professionals to assist each other in fine tuning skills or teaching strategies, and applying them skillfully and effectively leading to mastery (Showers, 1984). Coaching is not evaluation which implies judgment about the adequacy or inadequacy of an individual, but coaching is the assistance of an individual in the learning process (Showers, 1985). Coaching also facilitates collegial relationships whereby a shared language and norms are established by the community for the community (Little, 1982).

Prior to the research by Joyce & Showers, teacher effectiveness research by Dornbusch (1976), Scott and Smith (1987) used the concept of peer observation and feedback in their development of collegial interaction methods. Peer observation and feedback were used for the purpose of improving teacher effectiveness. Brophy (1979) reported that nonjudgmental feedback helped teachers to monitor and to change behavior using Elliott’s peer review study. Berliner’s survey (1982) showed improvement of teacher effectiveness following observation and feedback dealing with time-on-task. Mello (1984) used the term “trust partners” for his peer-centered coaching model. It was described as giving and receiving feedback in a supportive environment in order to change teacher behavior and teacher-student interactions. The improvement of teacher effectiveness came as a result of “fine tuning” skills through the use of peer interaction, observation and feedback.
There have been numerous studies and articles on peer coaching over the past twenty years which have examined its use with inservice teachers and staff development, but there have been few investigations of peer coaching at the preservice level. All of the studies have stressed that peer coaching builds collegial relationships in a supportive, non-evaluative manner (Joyce & Showers, 1980, 1982; Batesky, 1991; Hyman, 1990; Showers, 1985; Sparks & Bruder, 1987; Glatthorn, 1987; Garmston, 1989).

Peer coaching was first used in the teaching community for professional development. Its application is found at the university/college faculty level (Skoog, 1980) to the elementary school (Pavelich, 1992). Research supports the use of peer coaching for professional development citing numerous benefits for both the coach and the peer (Skoog, 1980; Showers, 1985; Little, 1982; Hendrickson, 1988). The greatest benefit of coaching is the establishment of a collegial atmosphere that promotes risk-taking and allows teachers to engage in the study of teaching (Munro & Elliott, 1989; Leggett & Hoyle, 1989; McRel, 1983). Peer coaching within professional development is being used for the improvement of instructional techniques (Joyce & Showers, 1982; Showers, 1985; Mello, 1984), for the development of teacher skills (Sparks, 1986; Peterson & Hudson, 1989) and for the implementation of effective teaching strategies (Showers, 1985).

The Ann Arbor Public Schools project under the leadership of Sparks & Bruder (1985), was implemented as a professional development project. The goals were to improve collegiality, encourage new instructional
practices and enhance teacher effectiveness within the two elementary schools participating in the research project. Both schools began with a training seminar on effective school practices (motivation, lesson design, and active participation). Next, teachers were videotaped before the implementation of the peer coaching sessions. Tapes were not analyzed, but were for the teacher's own use. Teachers were then trained to observe, to record events, and to give feedback in the peer coaching sessions. Participants were asked to write the names of three preferred coaching partners from which the researcher assigned a peer coach. Consultants and peer coaches met frequently during the semester to discuss the peer coaching process and review new skills to be practiced. Each coaching pair did four to six observations using Cummings (1983) observation instrument on interactive teaching. At the end of the semester the teachers were videotaped and encouraged to analyze their tape.

The study's results showed an increase in teacher feedback and observation. The teachers rated the collaboration and feedback from the peer coach as being more beneficial than attending the seminar prior to the peer training. Both schools found that peer coaching had improved collegiality, experimentation, and student learning.

In Munro & Elliott's study (1989), 97% of the participants in the Forest View High School in Illinois accomplished their instructional goal. The achievement of the goal was attributed to peer coaching. This project consisted of regular observations (2 per month), with feedback and
suggestions provided by coaches. Observing each other led to self-evaluation and reflection on the teachers' own classroom strategies and teaching methods. It was found that the participants involved in the peer coaching program were observed 6 times more than the non-participants. The coached group had a total of 12.6 observations and 17 conferences for the year study. Participants credited the frequency of observation and feedback, comfort level with peer, open discussion of problems and concerns as leading to the higher rate of instructional growth than working with the traditional supervisor averaging two visits per year. These traditional supervisory visits were viewed by teachers as being evaluative and were resented.

The Fort Worth Texas project found similar results in their implementation of peer coaching. Teachers were displeased with the traditional inservice education and believed there to be an effective alternative. Reasons cited for the failure of the traditional inservice were:

a. one shot workshop
b. failure to provide follow-up
c. rarely addresses individual needs and concerns
d. failure to provide support at school level for the new skill (Leggett & Hoyle, 1989).

Regan (1985) states that administrators hope to achieve change through one shot inservice training, but this training goes with no long term impact and can only offer limited opportunity for an exchange of information.
Pusch (1985) states that traditional staff development activities do not meet individual needs of teachers.

From the beginning point, teachers were trained as peer coaches along with a theoretical foundation of effective teaching. After the workshop, preconferencing, observing, and post conferencing became the norm yielding more effective application of the theory and practice. From this, a second project is being developed for more school districts in the area. Bouley (1988) and Bryant (1977) cite that giving competent teachers an opportunity to assume a role in leadership renews enthusiasm and commitment to excellence. Peer coaching is renewing teachers' enthusiasm for teaching.

**Process of Coaching Preservice Students**

It was found that individuals who practiced new strategies through the technique of peer coaching frequently developed greater skill in the new teaching strategy than those who were uncoached. Learning psychologists further state that practice without feedback make individuals more proficient in mistakes. The transfer of training or the influence of prior learning upon later learning is a key component in peer coaching.

Historically, the mid-70s found investigations into this area. Researchers found that most preservice and inservice teachers could acquire a number of models of teaching with intensive training. The use of training by O'Donnell (1974) with 30 preservice teachers for the demonstration of
advance organizers consisted of theory, demonstration, practice, and feedback. The preservice teachers performed at the 90% level. Bouce, Weil, Wald (1981) investigated concept attainment using the same theory model with 30 preservice teachers resulting in a shift in the appropriate direction when attempting to use the model. Other investigators, such as Tinsman (1971), and Kelly (1973) found that the theory paradigm resulted in a positive acquisition of the model or skill.

Pavelich's (1992) study of preservice students participating in peer coaching at the University of Saskatchewan found that the process provided “peer” support, and increased teaching effectiveness. This permitted the interns to collaborate and reduced observation and coaching required by the cooperating teacher. From the study workload, scheduling, and observations needed to be adjusted to improve upon the peer coaching experience.

The Wenzlaff (1994) study of five student teachers consisted of weekly conferences for nine weeks along with daily journal entries. Wenzlaff found that students did improve in reflectivity with the peer conferences, but not all of the 5 students made it to level 3 of Van Manen’s Categories of Reflective Thinking. The recommendation made from this study is to begin the process of reflection and peer coaching earlier in the student’s educational program.
Summary

From the review of literature, peer coaching shows much promise for the enhancement of the preservice teacher education program. The development of theory application, collegial relationships, and collaboration are indicative of reform. Inservice teachers believe that peer coaching is essential to professional growth and development despite the issues of time; therefore, by implementing a peer coaching program at the preservice level would be the beginning of building the professional dialogue (Shulman, 1987) giving educators a common language (Chrisco, 1988; Raney & Robbins, 1989). It would also end the isolation of the teacher in the work place (Sarason, 1971; Glickman, 1985).

Conclusion

The belief that teachers could be trained to improve their instruction and that of their colleagues led Joyce to label this form of staff development as “peer coaching.” The basic function stated by Neubert was to provide feedback and personal facilitation or personal growth. Garmston described the different types of coaching that schools could utilize depending upon the objectives and focus of the school: technical, collegial, and challenge coaching. Most peer coaching models incorporate Joyce’s five components: presentation of a theory, observation, practice, feedback, and coaching. These five steps were essential for the fine tuning of skills, or for
the acquisition of new strategies into the teacher's repertoire of instruction. An additional benefit of the peer coaching was the building of collegial relationships in the school as reported by Showers. Through the building of these relationships by the use of peer coaching, the isolation of the school would diminish promoting collaboration, as stated by Rothberg (1985).

With the goal of improving teacher effectiveness, different variations of the peer coaching programs have emerged. Little (1982) worked in urban schools and found that the schools with the highest ranking practiced the peer coaching concept. Sparks (1986) found that as teacher behaviors changed through the implementation of peer coaching, student outcomes were affected positively. Servatius (1985) and Leggett (1987) reported that peer coaching was the model for learning and mastery of new teaching strategies. Showers (1987) studied the transfer of training and found that coached teachers showed a higher rate of transfer of skills than uncoached teachers. This conclusion was also supported in his study of high school science teachers. Moffett (1987) supported Shower's conclusion that teachers could implement a peer coaching program and increase collegiality in their schools.

The limitations of the peer coaching model were cited by Alfonso (1977), Grimmett (1987), and Garmston (1987) and focused on the educational structure. A successful peer coaching program has administration support, teachers willing to take ownership, and time allocated for training and implementation. Sparks & Bruder (1987)
concluded that the most suitable individuals to serve in a coaching situation would be peers. Peer coaching has been shown through the studies to cause significant changes in teaching strategies, improve teacher attitudes, and promote collegiality in schools. If collaboration is the tool for fostering and building collegial relationships as the research so indicates; and if peer coaching is seen as the vehicle for the implementation of collaboration, then peer coaching is a viable and productive method for the improvement of preservice and inservice teacher's performance in the educational setting. By supplementing the clinical supervision model with peer coaching, and teaching the theory of clarity behaviors, preservice teachers will be given a model which they can take with them to meet the challenges of the teaching profession. They will be more open, resourceful, and apt to seek others for collaboration and support.
CHAPTER III
METHODOLOGY

Introduction

The purpose of the study was to determine whether preservice teacher education students participating in a peer coaching dyad would demonstrate greater clarity skill in the elementary classroom than a preservice teacher education students not participating in a peer coaching dyad. A secondary purpose was to determine the pedagogical content for post conferences of preservice peer coaches and nonpeer coaches. Finally, the study looked at the level of satisfaction felt by peer and nonpeer coached groups concerning field experience.

This chapter will provide a description of the research procedures used to achieve the objectives listed above and to answer specific research questions submitted in chapter one. The research procedures are addressed under five headings: a) objectives of the study; b) research design of the study; c) sample of the study; d) instrumentation of the study; and e) data analysis of the study.
Objectives of the Study

The study's primary objective was to examine the strategy of peer coaching implemented in a preservice teacher education early field experience program. The objectives were to: a) investigate the effect peer coaching had upon the acquisition of clarity skills; b) determine content topics in post conferences; and c) denote level of student satisfaction within the field experience. The following questions guided this investigation.

1. When a peer coaching program is implemented within a preservice teacher education program, do peer coached preservice teachers demonstrate clarity behaviors more frequently than uncoached preservice teachers?

2. When a peer coaching program is implemented within a preservice program, what are the similarities and differences of post conference discussions of preservice education students participating in a peer coaching program and those not participating in the program?

3. When a peer coaching program is implemented within a preservice teacher education program, what is the attitude of the preservice teacher concerning field experience in a peer
The sample for this investigation was a group of preservice students enrolled in the precertification of an Early and Middle Childhood Education Program, for the winter quarter, 1985, at a large mid-western urban university. This program is the first practicum experience for the preservice students entering the elementary education program. All participants had followed the university's course requirements prior to entrance into the College of Education; therefore, the preservice students had identical field experiences, one quarter freshman year.

A list of the subjects was obtained prior to the beginning of the class. The subjects consisted of 32 students: 24 juniors and 8 seniors; 5 males and 27 females. From this list, subjects were randomly assigned to peer coaching dyads (16 participants) for the experimental group, and nonpeer coaching dyads (16 participants) for the control. The two groups were next randomly assigned to three schools located in a large urban school district. Finally, names of cooperating teachers were given to the researcher by the respective principals and the cooperating teachers were then randomly assigned to the students. A total of 8 cooperating teachers were assigned to the experimental group since the peer coaching team consisted of two preservice teachers sharing one classroom, and 16 cooperating teachers were assigned to the control group which consisted of one preservice teacher in each classroom.
The sample of cooperating teachers included 24 female teachers with 5 assigned to kindergarten, 5 to first grade, 5 to second grade, 3 to third grade, 3 to fourth grade, and 3 to fifth grade. Teaching experience ranged from six years to thirty-one years, with the mean being fourteen years. All teachers had prior experience working with preservice teachers, but the first time working with the precertification group.

Research Design

This section provides a description of the research methodology and data-collection procedures employed in the study. The experimental research design is a one-between groups (peer group vs. nonpeer group), one-within group design with a modification of repeated measure. Using the notation of Kennedy and Bush (1985) shown below in Figure 1, “A” represents two levels of treatment, “S” represents the individual skills, and “B” represents the time sequence (pre, post) for Hypothesis I and (pre, mid, post) for Hypothesis II. The independent variable was the treatment effect at levels A1 and A2. The dependent variables were clarity skills, content variety, and satisfaction. The experimental group is represented by A1: preservice teachers who do receive peer coaching, training in clarity skills, preconference, observation, feedback, and postconference. The control group is represented by A2: preservice teachers who do not receive peer coaching, but receive the same content information.
Both groups (experimental/control) had the same training during a weekly seminar in clarity behaviors and pedagogy. Both groups were videotaped for the pretest and posttest. Both groups audiotaped the preconference and post conference weekly. Both groups recorded one anecdotal entry per week in a journal.
Cooperating teachers were contacted prior to the student's arrival to the classroom. Orientation meetings were scheduled three weeks prior to the beginning of winter quarter. During this meeting the cooperating teacher received one hour of training in the following areas: role of precertification program, teacher and student roles, responsibilities, expectations, and the supervision process. In addition the treatment group received instructions about the process of peer coaching and its application to the classroom. A follow-up meeting lasting one hour was held following the preservice student's first visit to the classroom.

The study was conducted during a seven week time frame in three phases (see Figure 2). Phase one for both groups consisted of a PRETEST (week 2), prior to the treatment period. The preservice students' first videotaped lesson and audiotaped post conference was obtained, representing the pretest score for each subject. The PRETEST was a direct teaching lesson defined as explicit teaching that is highly structured, goal oriented, characterized by teacher modeling and student practice (Rosenshine, 1987) lasting for 15-20 minutes.
<table>
<thead>
<tr>
<th>Week</th>
<th>Tuesday</th>
<th>Wednesday/Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>Orientation</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>PC1</td>
<td>video1</td>
<td>J &amp; Pt1</td>
</tr>
<tr>
<td>3</td>
<td>C2</td>
<td></td>
<td>J &amp; Pt2</td>
</tr>
<tr>
<td>4</td>
<td>PC3</td>
<td></td>
<td>J &amp; Pt3</td>
</tr>
<tr>
<td>5</td>
<td>PC4</td>
<td></td>
<td>J &amp; Pt4</td>
</tr>
<tr>
<td>6</td>
<td>PC5</td>
<td></td>
<td>J &amp; Pt5</td>
</tr>
<tr>
<td>7</td>
<td>PC6</td>
<td></td>
<td>J &amp; Pt6</td>
</tr>
<tr>
<td>8</td>
<td>PC7</td>
<td>video2</td>
<td>J &amp; Pt7</td>
</tr>
<tr>
<td>9</td>
<td>PC8</td>
<td>S S</td>
<td>J &amp; Pt8</td>
</tr>
</tbody>
</table>

**Legend**

- video 1: **pretest**, collected week 2
- PC: preconference
- J: journal, **collected weekly**
- Pt: postconference audiotape, **collected weekly**
- video 2: **posttest**, collected week 8
- S S: satisfaction survey, **administered week 9**

**Figure 2**

Weekly Schedule for Implementation and Collection of Data
Using the general clinical observation guidelines espoused by Glickman (1990), Cogan (1979) and others, the following questions were used for the post observation conferences:

a. What were the strengths of the lesson?

b. What was the weakness of the lesson?

c. If you were to teach this lesson again what would you do differently?

All conferences were audiotaped, both pre and post, but only the post conference audiotapes during the treatment of week 1, 4, and 7 were analyzed. This weekly collection was to verify pre and post conferences occurring as scheduled. The videotape and audiotape of phase I were used for baseline information purposes.

Following this, the experimental group began the treatment. Phase two was conducted during weeks 3 through 6. During this period, peer coaching teams met weekly for preconferencing/planning, observing, giving feedback, and post conferencing at the respective schools. Each member of the peer coaching team observed the other teaching twice a week. After each teaching episode, a post conference meeting between the two peers occurred to discuss the teaching session, to give feedback, and to analyze observational data. The audiotapes were collected weekly.

Separate seminars were held weekly for the two groups. The subjects in each seminar were given the first 15 minutes of the session to record a memorable experience from the school in a journal. The journal
entry was used for discussion during the weekly seminar and collected weekly following the session. The students next shared this experience with a small group (3 to 4 individuals) and then with the large group. The seminars for the treatment group also included demonstration of clarity skills, role playing, video simulations of teaching events, practice conferencing exercises, feedback, and discussions.

The seminar for the control group followed the procedure of clarity skills lecture and discussion of journals. The preservice teacher in the control group audiotaped lesson planning independently, and post conference with the university supervisor who asked the same questions as were asked to the experimental group and collected weekly. A journal was kept and collected weekly. Thus the only difference between the control group and the experimental group was the treatment process.

The final phase three occurred during week 7 following the treatment period. The POSTTEST was a videotaping of a lesson following the same guidelines as the PRETEST: teacher directed lesson with a duration of 15-20 minutes. The videotapes, both pre and post test, were viewed by trained raters to determine the outcome of the treatment. The audiotapes: pre, mid, and post, were rated by a different set of trained raters.

Both the experimental and control group completed an attitude scale rating the field experience during week 9. It was anonymous and only had the identification code of peer or nonpeer on it.
Table 1

Summary of weekly seminar sessions

<table>
<thead>
<tr>
<th>Session</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session 1</td>
<td>Orientation to Precertification Program</td>
</tr>
<tr>
<td>Session 2</td>
<td>Overview of the research on peer coaching</td>
</tr>
<tr>
<td></td>
<td>Purpose of coaching</td>
</tr>
<tr>
<td></td>
<td>Rationale for coaching</td>
</tr>
<tr>
<td></td>
<td>Types of coaching</td>
</tr>
<tr>
<td></td>
<td>Functions of coaching</td>
</tr>
<tr>
<td></td>
<td>Introduction of Clarity Skills #1 &amp; #7</td>
</tr>
<tr>
<td></td>
<td>#1 - Stating Objectives</td>
</tr>
<tr>
<td></td>
<td>#7 - Provides time for practice</td>
</tr>
<tr>
<td>Session 3</td>
<td>Elements of Peer Coaching</td>
</tr>
<tr>
<td></td>
<td>preconference</td>
</tr>
<tr>
<td></td>
<td>(setting of goals/strategies/lesson plan)</td>
</tr>
<tr>
<td></td>
<td>observation (demonstration &amp; practice)</td>
</tr>
<tr>
<td></td>
<td>post conference (demonstration &amp; practice)</td>
</tr>
<tr>
<td></td>
<td>Introduction Clarity Skill #2 - Repeating important points</td>
</tr>
<tr>
<td>Session 4</td>
<td>Clarity Skills &amp; Peer Coaching</td>
</tr>
<tr>
<td></td>
<td>observation (videotape/practice/demonstration; class setting)</td>
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<tr>
<td>Session</td>
<td>Topic</td>
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<td>-----------</td>
<td>------------------------------------------------------------</td>
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<tr>
<td></td>
<td>data collection (demonstration/practice; class setting</td>
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<tr>
<td></td>
<td>and field setting)</td>
</tr>
<tr>
<td></td>
<td>role play preconference</td>
</tr>
<tr>
<td></td>
<td>discussion</td>
</tr>
<tr>
<td></td>
<td>Introduce clarity skill #3 - Use of examples</td>
</tr>
<tr>
<td>Session 5</td>
<td>Clarity Skills &amp; Peer Coaching</td>
</tr>
<tr>
<td></td>
<td>role play teaching situation</td>
</tr>
<tr>
<td></td>
<td>data collection (videotape/practice; class setting)</td>
</tr>
<tr>
<td></td>
<td>role playing post conference</td>
</tr>
<tr>
<td></td>
<td>discussion/feedback</td>
</tr>
<tr>
<td></td>
<td>Introduce clarity skill #4 - Repeats things students do</td>
</tr>
<tr>
<td></td>
<td>not understand</td>
</tr>
<tr>
<td>Session 6</td>
<td>In class videotaping of preconference and post conference</td>
</tr>
<tr>
<td></td>
<td>practice data collection (lab setting)</td>
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<tr>
<td></td>
<td>discussion/feedback</td>
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<td></td>
<td>Introduce clarity skill #5 - Asks questions</td>
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<td></td>
<td>(individual &amp; group)</td>
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<tr>
<td>Session 7</td>
<td>Question/Answer Time on Clarity Skills and</td>
</tr>
</tbody>
</table>
Table 1 continued

<table>
<thead>
<tr>
<th>Session</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Peer Coaching</td>
</tr>
<tr>
<td></td>
<td>analysis of videotape of preconference and post conference</td>
</tr>
<tr>
<td></td>
<td>data collection (lab setting) use of videotapes</td>
</tr>
<tr>
<td></td>
<td>practice in the field</td>
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<tr>
<td></td>
<td>Introduce clarity skill #6 - Provides opportunity for students to ask questions</td>
</tr>
<tr>
<td>Session 8</td>
<td>Revision of Clarity Skills</td>
</tr>
<tr>
<td></td>
<td>Videotape Posttest - lesson #2 in the field</td>
</tr>
<tr>
<td>Session 9</td>
<td>Satisfaction Survey on field experience</td>
</tr>
<tr>
<td></td>
<td>Feedback on field experience and peer coaching experience</td>
</tr>
</tbody>
</table>

Instrumentation

Three instruments were used for the collection of the data: Clarity Observation Instrument Part I & II (Appendix A), Shulman's Model of Pedagogical Reasoning and Action (Appendix C), and Peer Coaching Satisfaction Survey Part I & II (Appendix D). The clarity skills instrument is a
modification of the original clarity instrument (Hines, 1981), and modified by Larsen (1985), Hamilton (1988), and Giebelhaus (1993). From the fourteen clarity skills addressed in the Giebelhaus study only seven were selected to be used for this study due to the frequency of occurrence of the skill within a naturalistic setting as recommended by the researcher. The second instrument was Shulman's Model of Pedagogical Reasoning and Action. Its selection was based upon the study of Wilkes (1994) with student teachers finding that the instrument was flexible, was closely aligned with the practice of teaching and was easy for student teachers to use. The third instrument was a survey adapted from the coaching functions as used by Joyce & Showers (1982) by Neubert & Britain (1987). The instrument was piloted three times following each coaching session lasting for a one year cycle. Each of these instruments will be discussed below.

Clarity Observation Instrument

The Clarity Observation Instrument (see Appendix A) was used to report low, moderate, and high inference clarity behaviors. Part I measures the frequency of the clarity skill's occurrence. Seven skills are included on the instrument: informing students of lesson objectives, repeating important points for students to learn, using examples, repeating things students do not seem to understand, asking questions (individual and group, providing opportunities for questions, and providing opportunity for practice. Part II is
a Likert scale measuring the raters perception of the overall effectiveness of the clarity skill observed based on the operational definitions (see Appendix B).

This instrument was found to be conducive to the parameters set for this investigation. The modification of this instrument by Hamilton (1988) from the studies of Hines (1981) and Larsen (1985) found that low and moderate inference scores could be determined from videotapings of preservice teachers in a naturalistic setting regardless of content or grade level taught. Content was controlled for this study by having students teach any lesson whereby children's literature was integrated with a writing activity. Hamilton (1988) reported high internal reliability of the modified instrument, coefficients ranging from $r=.75$ on low-inference frequency measures to $r=.91$ on moderate to high inference ratings. Using log-linear analysis, Hamilton reported that subject matter had no significant effect on clarity. An analysis by Metcalf (1991) further confirmed that teacher clarity behaviors could be reliably observed and measured.

**Training of Raters**

Training for the raters of this instrument was conducted informally in four sessions lasting three hours each. The three raters were inservice teachers currently working in the classroom. Each had worked with preservice teachers prior to training. An average of 23 years teaching experience was brought to the viewing of the videotapes. During the
training sessions definitions were discussed, and the Clarity Training Manual (Metcalf, 1989) and videotape were used. Sample lesson tapes from the pilot study were then viewed, rated, discussed, and compared. After each training session, raters viewed and rated independently three videotapes from the pilot study of preservice teachers. These independent ratings were compared for interrater reliability using Cronbach's alpha. Raters established a 84.3% interrater reliability rating of the seven skills on Part I from a sample taken, and also a 100% interrater reliability on Part II, the overall effectiveness rating measure.

Following the training session all 64 tapes were scored independently by each rater. During these independent ratings, one videotape was randomly selected to see if the interrater reliability was being maintained and the score was 86%.

**Shulman’s Model of Pedagogical Reasoning and Action**

The second instrument was Shulman's (1987) Model of Pedagogical Reasoning and Action (see Appendix C) used for classification of post conference dialogue. The components of this instrument include six areas: comprehension, transformation (with subcategories of preparation, representation, selection, and adaptation and tailoring to student characteristics), instruction, evaluation, reflection, and new comprehension. Shulman ascertains that this model is not linear, but rather recursive in its application to reflection and discourse. Shulman suggests that knowledge
is static, whereas reasoning and action suggest a dynamic state where knowledge is being tested, refined and new understandings generated (Shulman, 1992, 1987). Marks (1990) claims pedagogical content knowledge results from a process involving interpretation and transformation. Fieman-Nemser & Parker (1990) relate the ideas of Shulman to interaction between different kinds of knowledge: subject matter, students, classroom, and curriculum. This model provides an understanding to the development of pedagogical content knowledge and professional growth of teachers (Wilkes, 1994).

Students in both groups preconferred and post conferred. Audio-tapes were collected weekly, and weeks 1, 4, and 7 were selected for analysis giving a pre, mid, and post sampling of post conference sessions for peer coached and noncoached groups.

For a member check, journals were used weekly by each subject to record personal impressions on the peer conferencing feedback sessions, activities that occurred during teaching, types of feedback given, and outcomes and/or suggestions made. The post observation conference followed the general clinical observation guidelines by Glickman (1990), Cogan (1979) and others. The conference included:

a. what was observed - lesson content, activities, interaction, etc.;

b. what strengths/weaknesses were displayed;

c. areas of improvement.
A new group of raters was trained for the rating of the audiotapes. The three raters were public school teachers with an average of 21.6 years teaching experience. The training included three sessions lasting three hours. During the training, definitions established by Shulman, were discussed, sample tapes were listened to, discussed, rated, and compared. After each training session, the raters listened to and rated independently three audiotapes. These independent ratings were compared for interrater reliability using Cronbach's alpha and established at 85%.

Each rater listened to all 96 audiotapes from weeks 1, 4, and 7. The tapes were coded representing pre, mid, and post time periods, rated blindly and independently by the raters with an interrater reliability level at 87%.

Following the rating by the trained raters, a content analysis was used to determine discussed topics. The researcher along with one other rater used Shulman's Model of Pedagogical Reasoning and Action for the categories. The definitions were discussed and sample statements were used for coding and categorizing. Statements from the actual study were then separated onto blank sheets of paper, categorized and coded by the raters individually and then jointly.

Peer Coaching Satisfaction Survey

The third instrument The Peer Coaching Satisfaction survey indicates satisfaction level of the field experience. This instrument is a
modification of Showers (1982) coaching functions by Neubert & Bratton (1987). The original instrument was used with inservice teachers reporting and addressing the issue of attitude toward teaching and peer coaching (see Appendix D). The two combined instruments created a Likert scale in Part I and open ended questions in Part II to investigate the similarities and/or differences in attitude/perception toward teaching between the coached and uncoached groups. This instrument was selected because of its use with inservice teachers and its modeling of coaching functions.

Data Analysis

Data were entered into the computer as results were obtained from the raters. The videotapes consisted of 64 tapes (pre and post) rated blindly by three raters. The audiotapes consisted of 96 tapes (pre, mid, and post) rated by three different raters blindly. The third analysis consisted of an attitude survey completed by the preservice teacher at the end of the field experience. The Statistical Package for the Social Sciences (SPSS) was the means used to analyze the data. See Table 2 for a list of the research questions, instrument, and method of statistical analysis used. All 32 of the subjects were included in the analysis.
Table 2

Research Hypothesis, Related Instrument, and Statistical Analysis

<table>
<thead>
<tr>
<th>Research Hypothesis</th>
<th>Instrument</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Elementary preservice teachers who participate in peer coaching will demonstrate greater clarity skill in their teaching repertoire than those who do not participate in peer coaching.</td>
<td>Clarity Observation Part I &amp; Part II</td>
<td>frequencies,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>percentages,</td>
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<td></td>
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<td>mean scores,</td>
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<td></td>
<td></td>
<td>standard deviations,</td>
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<td></td>
<td></td>
<td>univariate,</td>
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<tr>
<td></td>
<td></td>
<td>ANOVA</td>
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<tr>
<td></td>
<td></td>
<td>ANCOVA</td>
</tr>
<tr>
<td>2. Elementary preservice teachers who participate in peer coaching will have more content variety in post conference discussions on the teaching process than those who do not participate in peer coaching.</td>
<td>Model of Pedagogical Reasoning and Action</td>
<td>frequencies,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>percentages,</td>
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<tr>
<td></td>
<td></td>
<td>mean scores,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>standard deviations,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>chi-square content</td>
</tr>
<tr>
<td></td>
<td></td>
<td>analysis</td>
</tr>
<tr>
<td>3. Elementary preservice teachers who participate in peer coaching will exhibit higher level of satisfaction with the field experience than those who do not participate in peer coaching.</td>
<td>Satisfaction Survey</td>
<td>frequencies,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>percentages,</td>
</tr>
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<td>mean scores,</td>
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<td>standard deviations,</td>
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<td>t test</td>
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</tbody>
</table>
Hypothesis I involved a pretest-posttest control group design. To find foundational information descriptive statistics were used obtaining the mean and standard deviations of the scores. The next level used was the analysis of covariance for Part II of the instrument. The overall score (omnibus) had the raters evaluating the effectiveness of the preservice teacher's demonstration of the clarity skills in general. The omnibus score is considered to be high inference. According to Stanley & Campbell an acceptable test to compute for pretest-posttest gain scores is randomized "blocking" on pretest scores as the covariate. This is preferred to simple gain-score comparisons (p. 23). Therefore, analysis of covariance (ANCOVA) was used following the rating of all 32 videotaped lessons by the trained raters, whereby the interrater reliability was .95.

The analysis for Hypothesis II was descriptive statistics to establish mean, chi-square was used for two reasons: one to compare the groups on nominal variables and secondly, to test the homogeneity of the group at the .05 level. This was selected because the findings for this hypothesis are based over the same individuals being measured at three different time periods: pre, mid, and post (Hinkle, Wiersma, Jurs, 1988). The evaluation of the audiotapes consisted of 96 tapes that were rated independently. The raters maintained their reliability level of .87, and the interrater reliability was .85. To gain descriptive information a content analysis was used to determine content of post conferences.
To analyze for Hypothesis III, a posttest control group only design was used. Descriptive statistics were used to establish the mean and standard deviations of the questions. To analyze the responses of the satisfaction survey, a t test was selected to measure the difference between the means and examine the differences of the two samples as being significant at the .05 level.

Summary

This chapter described the methodology of this investigation. Addressed were the issues of objectives, sampling procedures, research design along with training for the raters of the video and audiotapes, and data collection, instrumentation, and analysis of data. The following chapter addresses the results.
CHAPTER IV
FINDINGS AND DISCUSSION

Introduction

The purpose of this study was to determine whether preservice teacher education students participating in a peer coaching seminar would demonstrate greater skill in the elementary classroom than a preservice teacher education student not participating in a peer coaching seminar. A secondary purpose was to determine the content of post conferences of the peer coached and noncoached groups. Thirdly, the researcher investigated the level of satisfaction preservice teachers felt during the field experience. This chapter will address specific results for each of the three hypotheses presented in this investigation.

The results of the study for Hypothesis I were based on two ratings (pre and post). The analysis used was the ANCOVA. Results for Hypothesis II were based on three ratings (pre, mid, and post) as analyzed by chi-square. The results for Hypothesis III were based on a self-reporting attitude scale concerning satisfaction experienced within the early field component. The survey was administered to both groups and results were
analyzed using the $t$ test. The research questions for the study are used to organize the findings and discussion presented in this chapter.

Research Question One

When a peer coaching program is implemented within a preservice teacher education program, do peer coached preservice teachers demonstrate clarity behaviors more frequently than uncoached preservice teachers?

Data collected using descriptive statistics for Part I of the CGI is reported in Table 3. The aggregated mean score for frequency count of each discrete skill was a combining of mean scores of individual raters across each clarity skill. This was used to show the comparison of pretest and posttest scores in Part I. The aggregated mean score for the control group Part I pretest was 1.82, whereas the experimental group was 1.84 which was not found to be significant at the .05 level representing homogeneity of the groups at the pretest. The aggregated mean scores for Part I posttest for the control group was 1.97, whereas the experimental group was 3.72 and was found to be significant at the .05 level representing a difference between the two groups.
Table 3

Means of Frequency Count for Clarity Skills Part I

<table>
<thead>
<tr>
<th>Skill</th>
<th>Control Group</th>
<th>Experimental Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>C1 Stating Objectives</td>
<td>.81</td>
<td>.67</td>
</tr>
<tr>
<td>C2 Repeating Points</td>
<td>2.00</td>
<td>1.60</td>
</tr>
<tr>
<td>C3 Using Examples</td>
<td>1.64</td>
<td>2.44</td>
</tr>
<tr>
<td>C4 Repeating Items</td>
<td>.31</td>
<td>.77</td>
</tr>
<tr>
<td>C5 Asking Questions</td>
<td>5.23</td>
<td>5.00</td>
</tr>
<tr>
<td>C6 Student Questions</td>
<td>1.42</td>
<td>.92</td>
</tr>
<tr>
<td>C7 Practice Time</td>
<td>1.35</td>
<td>2.48</td>
</tr>
</tbody>
</table>

Total Mean Score       1.82  1.97  1.84  3.72 *

*Significant at the .05 level

This analysis was used to lay the foundation for the study. In viewing the table, one discrete skill, (C5) "use of questioning", was indicated more frequently than all other discrete skill areas. To verify if clarity skill C5 was problematic an ANCOVA was used for the analysis. This is a one way analysis of variance (ANOVA) on the covariable (pretest) and the response
variable (posttest). The first analysis was conducted on all seven discrete skills in Clarity Skills Part I, but the second analysis conducted excluded C5, therefore including only six of the clarity skills. Tables 4 and 5 report the results of this analysis. From the analysis using ANCOVA, a difference was found between the experimental and control groups on the posttest regardless of the inclusion or exclusion of clarity skill C5 "use of questions".

An examination of the omnibus adjusted mean score for each group revealed that significance is in the direction of greater demonstration of the skill by the experimental group: the adjusted mean score of the control group was 29.132; whereas the adjusted mean score of the experimental group was 53.368.

Table 4

Analysis of Covariance for Posttest Measure Clarity Skills Part I with Pretest Covariate and Seven Discrete Skills.

<table>
<thead>
<tr>
<th>source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>within</td>
<td>29</td>
<td>5707.51</td>
<td>196.81</td>
<td></td>
</tr>
<tr>
<td>regression</td>
<td>1</td>
<td>289.99</td>
<td>289.99</td>
<td>1.47</td>
</tr>
<tr>
<td>Peer Group</td>
<td>1</td>
<td>4665.50</td>
<td>4665.50</td>
<td>23.71*</td>
</tr>
</tbody>
</table>

Corrected total 31 10663.00

*Significant at the .001 level.
Table 5

Analysis of Covariance for Posttest Measure Clarity Skills Part I with Pretest Covariate Exclusive of Clarity Skill Use of Questioning.

<table>
<thead>
<tr>
<th>source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>within</td>
<td>29</td>
<td>1726.59</td>
<td>59.54</td>
<td></td>
</tr>
<tr>
<td>regression</td>
<td>1</td>
<td>179.16</td>
<td>179.16</td>
<td>3.01</td>
</tr>
<tr>
<td>Peer Group</td>
<td>1</td>
<td>639.70</td>
<td>639.70</td>
<td>10.74</td>
</tr>
</tbody>
</table>

Corrected total 31 2545.45

* Significant at the .003 level.

Part II of the instrument had the raters assessing the effectiveness of the preservice teacher using the teacher clarity skills at two levels: a moderate inference score on each of the seven discrete clarity skills and one high inference score on the overall or omnibus effectiveness of the clarity skills demonstration. Table 6 presents the mean omnibus scores of the raters across the pre and posttest scores. The omnibus for the control group for pre was 40.37 and for the experimental group 44.68 representing no significant difference between groups, suggesting homogeneity of groups. The adjusted means for each group reveals that significance is in
the direction of greater demonstration of the skill by the experimental group: the adjusted means of the control group was 64.535, and the adjusted means of the experimental group was 95.528. These results suggest that those students involved in the peer coaching group increased their clarity skills to a greater degree than those students not involved in the peer coaching group.

Table 6
Comparison of Means and Standard Deviations for Omnibus Clarity Skills Part II.

<table>
<thead>
<tr>
<th>Group</th>
<th>Pretest Measures</th>
<th>Posttest Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>control</td>
<td>40.37</td>
<td>6.56</td>
</tr>
<tr>
<td>experiment</td>
<td>44.68</td>
<td>6.18</td>
</tr>
</tbody>
</table>

To address the quality of overall clarity skills Part II, the omnibus clarity measure was used. A one way analysis of variance on the covariable (pretest) and the response variable (posttest) was conducted as part of the ANCOVA. Using the pretest as the covariable, the results are summarized in Table 7. Posttest results between the two groups suggest a significant difference at the .001 level, therefore the research question and hypothesis are supported that peer coached preservice teachers did demonstrate clarity behaviors more than uncoached preservice teachers.
Table 7

Analysis of Covariance for Posttest Measures Clarity Skills Part II with Pretest Covariate.

<table>
<thead>
<tr>
<th>source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>within groups</td>
<td>29</td>
<td>4767.30</td>
<td>164.39</td>
<td></td>
</tr>
<tr>
<td>regression</td>
<td>1</td>
<td>1444.89</td>
<td>144.89</td>
<td>8.79</td>
</tr>
<tr>
<td>peer group</td>
<td>1</td>
<td>6848.65</td>
<td>6848.65</td>
<td>41.66*</td>
</tr>
<tr>
<td>Corrected total</td>
<td>32</td>
<td>13060.84</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at the .001 level

Research Question Two

When a peer coaching program is implemented within a preservice program, what are the similarities and differences of post conference discussions of preservice teachers participating in a peer coaching program and those not participating in the program?

The aggregated mean rater scores and standard deviations are presented in Table 8 indicating an increase in frequency of content topics per measurement period for the first three variables: comprehension, transformation, and instruction; but a decrease in evaluation, reflection, and new comprehension. The table illustrates that the control group and experimental group are not equal at the beginning of the study. The control
group for week 1 has a mean of 1.62, whereas the experimental group has a mean score of 2.50 for the first week on the variable comprehension. This trend continues throughout the table with week 1 being higher for the experimental group than the control group.

Table 8

**Mean Scores and Standard Deviations of Frequencies for Pedagogical Reasoning and Action by Groups and Weeks.**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Control (n=16)</th>
<th>Experimental(n=16)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wk1</td>
<td>Wk4</td>
</tr>
<tr>
<td>Comprehension</td>
<td>M</td>
<td>1.62</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>1.20</td>
</tr>
<tr>
<td>Transformation</td>
<td>M</td>
<td>6.87</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>3.66</td>
</tr>
<tr>
<td>Instruction</td>
<td>M</td>
<td>2.50</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>1.46</td>
</tr>
<tr>
<td>Evaluation</td>
<td>M</td>
<td>6.56</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>3.28</td>
</tr>
<tr>
<td>Reflection</td>
<td>M</td>
<td>4.43</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>2.27</td>
</tr>
<tr>
<td>New Comprehension</td>
<td>M</td>
<td>2.93</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>2.35</td>
</tr>
</tbody>
</table>
Table 9 reveals an overall increase in the frequency of content in the post conference from week 1 to week 4. An examination of the omnibus mean for each group reveals that significance is in the direction of greater content variety by the experimental group by week 7; the mean score for the control group was 26.81, while the mean for the experimental group was 35.62. The group mean for week 4 was lower in content topics discussed in comparison to week 1 and week 7.

Table 9

<table>
<thead>
<tr>
<th>Groups</th>
<th>Wk1</th>
<th>Wk4</th>
<th>Wk7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>M</td>
<td>24.93</td>
<td>23.62</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>9.37</td>
<td>9.50</td>
</tr>
<tr>
<td>Experiment</td>
<td>M</td>
<td>32.25</td>
<td>31.37</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>10.89</td>
<td>10.22</td>
</tr>
</tbody>
</table>

equal groups, n=16

Table 10 illustrates the use of the chi square to establish homogeneity of the groups and independence. With the two groups beginning on different scores homogeneity was not found. The week effect is significant at the .01 level. The posttest results suggest a positive
directionality of the results. Even though the two groups were not equal in
the beginning, the experimental group had greater gain than the control
group.

Table 10

**Data for Experimental Groups on Shulman’s Model of Pedagogical
Reasoning Using Chi Square.**

<table>
<thead>
<tr>
<th>Groups</th>
<th>Week 1</th>
<th>Week 4</th>
<th>Week 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>observed</td>
<td>expected</td>
<td></td>
</tr>
<tr>
<td></td>
<td>399</td>
<td>394.95</td>
<td>378</td>
</tr>
<tr>
<td>Experimental</td>
<td>observed</td>
<td>expected</td>
<td></td>
</tr>
<tr>
<td></td>
<td>516</td>
<td>520.05</td>
<td>502</td>
</tr>
<tr>
<td>Totals</td>
<td>915</td>
<td>880</td>
<td>999</td>
</tr>
</tbody>
</table>

*Residuals for Experimental Groups on Shulman’s Model of Pedagogical
Reasoning and Actions*

<table>
<thead>
<tr>
<th>Groups</th>
<th>Week 1</th>
<th>Week 4</th>
<th>Week 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>residual</td>
<td>residual^2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.05</td>
<td>16.40</td>
<td>-1.84</td>
</tr>
<tr>
<td>Experimental</td>
<td>residual</td>
<td>residual^2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-4.05</td>
<td>16.40</td>
<td>1.84</td>
</tr>
</tbody>
</table>

*.01 = 9.21, therefore significant at the .01 level.
Part II of the research question asked for the content of the post conference discussion of the experimental and the control groups. The peer group did demonstrate more content topics in the discussions found in the post conferences than the nonpeer group as demonstrated in previous tables. Following are excerpts from post conferences.

Week 1 for the control group had 3 of 16 preservice students stating the purpose of the lesson, while 6 out of 16 for the experimental group stated the lesson purpose while engaged in post conference. Instruction and new comprehension both dealt with management issues whether time or behavior. Evaluation centered around the preservice teacher’s performance as perceived by the student. The following are samples of statements made by the student.

I thought I did a good job considering...
I did well for my first lesson.
I needed more time to finish my lesson.
I felt rushed.

Reflection was in the form of reconstructing the day and giving reasons why certain situations happened.

I told them (kindergartners) don’t put glue in your mouth, but they kept forgetting.
Week 4 found 10 out of 16 preservice teachers giving purposes in the control group. The evaluation and reflection allowed the preservice students to analyze their own performance as well as their student's performance. Lessons were beginning to include student diversity.

Examples included:

My lesson didn’t go well because some students didn’t understand what I was saying. Next time, I teach this lesson I will use more examples.

My students didn’t have the background necessary to understand this topic.

The peer group for week 4 used student’s prior knowledge and experience to form purposes for the lessons.

In language arts I read them the speech, “I Have a Dream” by Martin Luther King. Next, we discussed the speech. Then I had them work together in groups of four to create a country of their own. They needed to have a time setting, characters (what are the people like, what do they wear, what do they live in?), and what one object would they return to Earth that would represent this group of people. My purpose is to combine our history, study of
peoples from different lands with language arts in a creative writing assignment with the speech of Dr. King - a dream for tomorrow...

During post conferences, the peer group began to acknowledge selection possibilities, use of examples and adapting plans to student needs.

My students are very low. When you combine the hearing impaired with the class it is difficult teaching. I have to constantly be aware of examples, manipulatives, and group work.

Instruction moved from individual work to group work with use of interactive teaching and discovery learning. The preservice teacher continued to evaluate, reflect and develop new comprehension on their own teaching, but also began including the class' performance. Such statements as:

I needed to connect this assignment with the math I taught. My lesson just dangled by itself.
Next time, I will hand out only the manipulatives that I need. They got caught up in playing with the manipulatives instead of working on the assignment.
Week 7 indicated that 15 out of 16 control group participants stated the purpose for the lesson. The statements most often vocalized that demonstrate this include:

I thought it would be fun.

I did this when I was in school and loved it.

While the experimental group had 16 out of 16 stating the objective for the lesson with statements such as:

My purpose for teaching about liquids was to tie it in with what we studied in science: pressure. I wanted the students to see what happens to different liquids. We made a chart for the different liquids, then we graphed liquids that fizzled and liquids that don't, and then we talked about why some fizzled and others didn't.

Students in the peer group had a rationale or reason for doing different lessons that were integrated with ideas outside the content area. The differences in evaluation, reflection and new comprehension between the groups found the peer group grounding theses in explanations. This lesson did not go well because it needed to be conducted over two days or for an older group. Students had not been prepared for this lesson. This was not appropriate for this grade.
Week 7 for the experimental group indicated 14 out of 16 students discussed every category at least once. Several categories were mentioned more than once. It was found that 69% of the student's post conference discussion was spent discussing the purpose, transformation, and instruction of the lesson. While 31% of conversation time was spent on evaluation, reflection and new comprehension. It was revealed that a decrease in the latter occurred when compared to week one. An increase occurred in purpose, transformation and instruction. This seems to validate Fieman-Nemser's statement that beginning teachers teach for survival; therefore more time is spent on planning than reflecting. From the information presented Hypothesis II was supported in that the peer group had higher content frequencies in post conferences than the nonpeer group.

Research Question Three

When a peer coaching program is implemented within a preservice teacher education program, what is the attitude of the preservice teacher in a peer coaching program and those not participating in a peer coaching program?

The students used a self-reporting survey modified from the Showers & Joyce (1985) survey. The instrument consisted of two parts: Part I, a Likert scale ranked from strongly disagree to strongly agree (1 to 5), and
Part II, consisted of two open ended questions. The analysis used consisted of two parts: mean scores and standard deviations, and the t test. The mean score results are reported in Table 11. The results were consistent with the results from the pilot program and consistent with the results of Joyce & Showers, and Neubert & Bratton. The experimental group's overall mean scores were higher than the control group (m=4.75; m= 4.56), but this difference was not significant, even though the peer coaching group ranked each of the six components of the peer coaching model higher than the noncoached group. The rank ordering by the peer coached group and the nonpeer coached group were different. The peer coached group ranked from first to last: adaptation to students, personal facilitation, analysis of application, collegiality, and technical feedback, as having the most satisfaction for them. The ranking by the nonpeer coached group was: collegiality, adaptation and personal facilitation, analysis of application, and technical feedback as the satisfaction points of the program for them. Interesting to note, is that the nonpeer group ranked collegiality first and the peer group ranked it fourth for them. The peer group felt that adaptation to student's was the strongest point of the peer coaching program.
Table 11

Comparison of Means and Standard Deviations of Peer Coaching Components on Posttest Measure by Groups

<table>
<thead>
<tr>
<th>Components</th>
<th>Control Group</th>
<th></th>
<th></th>
<th>Experimental Group</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Range</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Collegiality</td>
<td>4.69</td>
<td>.80</td>
<td>1-5</td>
<td>4.56</td>
<td>.73</td>
</tr>
<tr>
<td>Technical Feedback</td>
<td>3.75</td>
<td>1.18</td>
<td>2-5</td>
<td>4.50</td>
<td>.63</td>
</tr>
<tr>
<td>Analysis of Application</td>
<td>3.87</td>
<td>1.02</td>
<td>2-5</td>
<td>4.75</td>
<td>.45</td>
</tr>
<tr>
<td>Adaptation to Students</td>
<td>4.31</td>
<td>.87</td>
<td>3-5</td>
<td>4.88</td>
<td>.34</td>
</tr>
<tr>
<td>Personal Facilitation</td>
<td>4.31</td>
<td>.70</td>
<td>3-5</td>
<td>4.80</td>
<td>.41</td>
</tr>
<tr>
<td>Overall</td>
<td>4.56</td>
<td>1.03</td>
<td>2-5</td>
<td>4.75</td>
<td>.45</td>
</tr>
</tbody>
</table>

Equal groups, n=16.

Using the t test analysis (see Table 12), significance was found at the .05 level or higher with technical feedback, analysis of application, adaptation to students, and personal facilitation. The overall rating was not significant, and therefore no significant difference between the two groups overall satisfaction level was found, but the directionality was found to be positive.
Table 12
T test Scores of Peer Coaching Components.

<table>
<thead>
<tr>
<th>Component</th>
<th>f</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collegiality</td>
<td>1.19</td>
<td>-.46</td>
<td>.646</td>
</tr>
<tr>
<td>Technical Feedback</td>
<td>3.50</td>
<td>2.24</td>
<td>.033 *</td>
</tr>
<tr>
<td>Analysis of Application</td>
<td>5.25</td>
<td>3.13</td>
<td>.004 *</td>
</tr>
<tr>
<td>Adaptation to Students</td>
<td>6.54</td>
<td>2.40</td>
<td>.023 *</td>
</tr>
<tr>
<td>Personal Facilitation</td>
<td>2.89</td>
<td>2.33</td>
<td>.027 *</td>
</tr>
<tr>
<td>Overall Rating</td>
<td>5.31</td>
<td>.67</td>
<td>.510</td>
</tr>
</tbody>
</table>

* Represents Significance at approximately .05 level.

From the comments written in the open ended section of the survey the researcher surmises support for the overall mean score that there was a difference even though it was not statistical. The results suggest that the students who participated in the peer coaching field experience had a higher ranking of their field experience than those not in the peer coaching group. The content analysis further shows that personal facilitation was the top ranking topic. Students spoke of how they felt and growth experienced.
The scores for the peer coached group range from 94% for personal facilitation to 31% adaptation to students in response to the two open ended questions. For the control group the range is 100% for personal facilitation to 19% technical feedback.

There were five subquestions to the main question. Following are the researcher's questions with the students' responses from the open ended questions: The parts of the field experience most useful were....; and Overall, how would you rate your field experience with regard to professional growth. Please explain.

Subquestion One

Do preservice teachers feel supported? Following are the responses taken from the open ended questions. The questions made by the nonpeer group were very positive about the support received from the cooperating teachers.

My cooperating teacher supported me and was so helpful.
She taught me so much.
My teacher was wonderful.
My cooperating teacher communicated well with me.
I learned how to build relationships with co-workers.
There was also negative feedback on the lack of support from the cooperating teacher.

I wish my cooperating teacher had supported me more and permitted me to do more. It would have made the experience more useful.

My teacher was not supportive and I feel my teaching was stifled.

The peer group spoke not only of the support received from their peer coaches, but also from their cooperating teacher.

The part of the field experience most useful was the feedback from my peer coach and cooperating teacher.

My cooperating teacher was wonderful — she was very supportive. My teaching partner also provided support.

Subquestion Two

Do preservice teachers feel assisted with technical feedback? This response, technical feedback, was ranked low by both groups, but the experimental group's mean was higher than the nonpeer group. The nonpeer group received feedback from the cooperating teacher, where the peer group had the opportunity to receive feedback from both the
cooperating teacher and peer coach. Individuals from the nonpeer group stated that:

I gained a lot of feedback from my cooperating teacher.

Out of the sixteen individuals in the peer coached group twelve made positive responses about feedback.

Evaluations and feedback were most useful.
My teaching partner provided valuable feedback on ideas and suggestions for improvement of lessons.
Working together was a wonderful learning experience.
Someone to have ideas to share with and having another pair of eyes in the classroom.
Feedback, feedback, feedback!

Subquestion Three

Do preservice teachers feel assisted with lesson planning? The third item, analysis of application, was rated the lowest for the nonpeer group. Students did not work together in this group and therefore did not mention the planning of lessons or preparation of the class. While the students who participated in the coaching spoke of analysis of application with a partner 11 out of 16 times. The students who had partners felt they were:

* able to bounce ideas off each other.
* giving and receiving ideas from another who knows the class
* lesson planning made us think like a teacher
* preparing lessons with my partner helped me gain confidence for teaching the lesson

Subquestion Four

Do preservice teachers feel assisted in adapting the clarity model to the class? With the fourth item, adaptation to students, only 2 out of 16 wrote of it in the nonpeer group, yet all 16 responses in the peer group wrote of adaptation of students. Such comments included:

I learned a lot from my CT and her class in terms of what to expect in a classroom and how to handle difficult students or surprising situations.
I learned a lot from this field work - about different styles of teaching for different students learning styles...
I have gained an understanding of how to work effectively with children
I saw what sort of things worked and which didn't with different students.
Subquestion Five

Do preservice teachers feel personal growth? The fifth item, personal facilitation, found all of the students both nonpeer and peer group writing about the confidence gained, knowledge gained, and changed perspective. The students were very positive about this category. Each week the students were given twenty minutes during seminar to respond in a reflective journal. Following this was a debriefing where students shared their experiences. These two activities helped to foster a reflective attitude and standard for the students to follow after teaching each lesson. Both groups weekly were given the opportunity to restructure lessons in the post conference. It became routine for the student. From these experiences, the researcher surmises this could be the reason for the higher marking by the experimental group.

I feel my professional growth progressed a good deal. I learned more about classroom management, adapting to the levels of the students and team teaching.

I feel that I grew tremendously! Not only as a teacher, but also as a person. I feel more sure of myself as a teacher. I have no doubt about my career choice now. This is what I am destined to do. I also feel that I have the ability to become a great teacher.
Each group felt that the field experience was excellent. The students were pleased with the setup of the experience: being in class two full consecutive days instead of four half days, and teaching each week. The integration of the children's literature and writing helped them to feel like real teachers. The following statement written by a member of the nonpeer group sums up the overall feeling of all 32 students:

When I first went into the class I was kind of shy and would rather work one on one with the children. Now, I feel like I can take the initiative anytime I'm in the classroom and lead the group in a whole class work.

Summary

The descriptive data and the ANCOVA used in the analysis of Hypothesis I/Research Question One suggest that preservice teachers who participate in peer coaching have greater demonstration of clarity skills than those who do not participate in peer coaching. The descriptive data and chi square used in the analysis of Hypothesis II/Research Question Two suggest that preservice teachers in peer coaching groups do have more variety of content discussions in post conferences than those not in the peer coached groups. The descriptive data and t test used in the analysis of Hypothesis III/Research Question Three did not support the idea of greater
Hypothesis III/Research Question three did not support the idea of greater satisfaction with the field experience for the peer coached group. The directionality was positive, but not supported.
CHAPTER V
SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Introduction

The economic status, faculty workloads, reform movement calling for teacher collaboration, and preservice teachers crying for immediate feedback have caused educators to examine the current practices employed in the clinical supervision model. From this probing, a bridge called peer coaching was found which links the preservice teacher education program to the professionalism of the inservice teacher. This chapter gives a summary of the investigation, presents conclusions, addresses implications and makes recommendations for future studies.

Summary

A search through the literature found peer coaching nested within staff development and supervision. Peer coaching is a strategy which assists the preservice teacher in achieving collaborative and collegial relationships, and achieving success in the acquisition of teaching skills (Joyce & Showers, 1983; Neubert & Bratton, 1987; Drew, 1989). Peer coaching provides an opportunity for the improvement of teaching skills and
an opportunity to experiment with new strategies, and receive feedback in a non-evaluative setting. The goal of peer coaching is to improve instructional techniques and mastery of teaching skills (Ackland, 1991) by means of systematic cycles of planning, observing, and analyzing teaching performance. The process is similar to the clinical supervision model.

A critical issue within the clinical supervision model is feedback. The preservice teacher in the field experience is learning to connect the theory being taught to the practice and application in the classroom. Students are then to receive constructive feedback from the cooperating teacher and supervisor concerning their teaching experience (Giebelhaus, 1990). But the nature of the traditional supervision model, one supervisor to 12 or 15 preservice students, immediate feedback is impossible. Therefore, the inability of the supervisor to provide immediate and simultaneous reinforcement is a limitation to the clinical supervision model as used with preservice teacher education.

Richardson-Koehler (1988) found that two other limitations were involved with the clinical supervision model. These were teacher beliefs concerning learning from experience, and an unwillingness of the cooperating teacher to engage in reflection. Both of these stem from the lack of training given to cooperating teachers prior to the preservice teacher’s field experience.

A premise of peer coaching is the training model. This consists of a theory to be taught, demonstration of the theory, practice with the theory,
feedback, and coaching. This process yielded a high knowledge base of the theory, high acquisition of the skill, and high classroom application of the theory. This investigation utilized the theory of teacher clarity. The review of literature (Hamilton, 1988; Hines, 1981; Williams, 1983; Hines, Kennedy, & Cruickshank, 1985; Metcalf, 1989; Giebelhaus, 1993) concur that student outcome is linked to the variable of teacher clarity. These studies found that teacher clarity skills were observable, measurable, and were not contaminated by content taught.

Peer coaching functions in three capacities: technical, collegial, and challenge (Garmston, 1987). Technical coaching assists in the transfer of skills to the classroom. A teacher is taught a specific skill and it is practiced with a peer coach. Collegial coaching is less formal. Two individuals decide what is to be observed, analyzed, and interpreted during the preconference for the observation, and later post conference. Challenge coaching is designed to help teams of teachers resolve persistent problems in instructional practice. Professional dialoguing and problem solving are essential to this model.

The two styles of coaching are expert coaching and reciprocal coaching. Expert coaching is used with master teachers or master coaches for the purpose of a one shot seminar. Once the expert has finished the seminar, there is no consultant to help with problems which may arise.
For this investigation, reciprocal coaching was used. This process involved the training of all individuals on the coaching team how to function as coaches with peers supporting and working together.

The purpose of this study was to determine whether preservice teacher education students participating in a peer coaching seminar would demonstrate greater clarity skill in the elementary classroom than a preservice teacher education student not participating in a peer coaching seminar. A secondary purpose was to determine the content discussion of post conferences between peer coached groups and nonpeer coached groups. Finally, the study looked at the level of satisfaction in the field experience by both the peer group and the nonpeer group.

To examine the potential of peer coaching within a preservice teacher education program a one between, and one within experimental design was conducted. This investigation examined the applicability of this process in a naturalistic setting using thirty-two preservice elementary teachers in their first practicum experience. This study was conducted in three urban schools and took nine weeks to complete. The study consisted of three hypothesis each addressed separately in the following pages.
Hypothesis I

Elementary preservice teachers who participate in peer coaching will demonstrate greater clarity skills in their teaching repertoire than elementary preservice teachers who do not receive peer coaching.

The two groups consisted of the experimental (those who received peer coaching) and the control (those who did not receive peer coaching). The dependent variable consisted of seven discrete clarity skills which have been documented as observable and measurable from the literature (Hines, 1981; Hamilton, 1988; Metcalf, 1989; Giebelhaus, 1993). The preservice students were videotaped twice: pretest, the week prior to the treatment period; and post test, the week following the treatment period. Videotapes were then scored by three trained raters using the Clarity Observation Instrument measuring the frequency of clarity skills which was a low inference score, measuring the quality of the clarity skill on a Likert 5 point scale which was a moderate inference score, and finally measuring the overall effectiveness of the clarity skills which was a high inference measure of the seven discrete teacher clarity skills.

The analysis used was the ANCOVA, where pretests served as the covariate. It was found that the clarity skill “questioning” was rated highest on both group’s overall score and demonstration. For each of the seven clarity skills demonstrated, the peer coached group’s score was almost twice that of the nonpeer coached group. It was found that the groups were
comparable when given the pretest, representing homogeneity of the 
groups. For the posttest, significance was found at the .05 level with the 
hypothesis being accepted.

Hypothesis II

Elementary preservice teachers who participate in peer 
coaching will have more content variety in post conference 
discussions on the teaching process than elementary preservice 
teachers who do not receive peer coaching training

The dependent variables for this hypothesis were the six 
pedagogical skills of reasoning and action by Shulman. The students were 
weekly audiotaped and week 1, week 4, week 7 being pulled out and 
analyzed. For the post conference the students answered three questions:
a) What went well?; b) What would you like to improve?; c) What would 
you do differently? The peer coached group met weekly with a peer for the 
post conference. The nonpeer groups had the questions asked to them by 
the University supervisor. The audiotapes were then scored by three 
trained raters who rated the frequency of the content discussed with the 
analysis being used chi square.

It was illustrated at the pretest score that the two groups were not 
comparable even thought the groups were randomly assigned. The mean 
score of week 1 illustrated that the two experimental group had scored
higher than the control group. At week 4, there was a decrease in both groups discussion of content. The overall mean score displayed in Table 7 for week 7, revealed an increase in content during post conference for comprehension, transformation, instruction for the experimental group, but a decrease in evaluation, reflection, and new comprehension. With the control group a decrease in comprehension, evaluation, reflection, and new comprehension occurred during the seven week cycle. Overall, the peer coached group (experimental group) did demonstrate greater content variety in post conference discussions. Significance was found at the .05 level for the within group effect and the between group effect.

**Hypothesis III**

**Elementary preservice teachers who participate in peer coaching will have a higher satisfaction level with field placement than those who did not receive peer coaching.**

Using descriptive statistics, mean scores and standard deviations, on the satisfaction survey given at the conclusion of the field experience, item number one, collegiality, received the highest mark from the nonpeer coaching group while it ranked fourth for the peer coaching group. Part II of the survey asked two open ended questions about the field experience: "The parts of the field experience most useful were..."; and "Overall, how would you rate your field experience with regard to professional growth?"
Please explain.* The comments made by the nonpeer group were very positive about the support received from the cooperating teachers. The peer coached group spoke of the collegiality formed with the peer and the cooperating teacher functioning as a team.

It is interesting to note that not once was the university supervisor mentioned in any section of the survey. The 32 students were divided among three university supervisors. Each visited the preservice teacher twice a week with visits lasting around twenty minutes, but the supervisors and students were only in the school two days per week; therefore, the supervisor did not have much time allocated for each student. From the results and comments made the nonpeer groups developed strong relationships with their cooperating teachers. The peer coached group was able to develop relationships and receive support from both the cooperating teacher and the peer coach.

From the comments written in the open ended section of the survey the researcher could surmise support for Hypothesis III, but from the analysis of the t test this hypothesis was not supported. Even though significance was found among four of the six items, the overall premise was that the peer group would have higher satisfaction level with the field experience than the nonpeer group and the omnibus score did not have significance, thus this hypothesis was not supported.
Conclusions

As a result of analyzing the findings from this study, several conclusions can be drawn. One being that students functioning as novices are able to scaffold and are scaffolded by other novices in the peer group. This was evidenced by the students' post conferences, journal writings, and interviews. The peer group engaged in more indepth discussion with each other on the audio tapes. Students in the peer group were able to build upon each other's ideas and lesson plans. Discussions moved from management issues in week one and behavioral problems to student learning styles in week 4 and lesson improvement in week 7. The objectives of the peer group by week 7 had a rationale, a content purpose, and an integrated approach. It was stated clearly to the students with the focus returning to the objectives. The preservice peer group understood why and what they were teaching.

Next conclusion is that peer coached individuals can be presented a theory such as clarity skills, and achieve an increase in the demonstration and effectiveness of that skill through the assistance of a peer coach. The peer coached group were constantly giving feedback to each other on the use of the skill. In the audiotape comments were made about the lack of demonstration or how well the skill was demonstrated. This constant feedback helped the preservice student to integrate the skill into the teaching repertoire. The clarity skill questioning was demonstrated to be
the most frequently used area in clarity by all students regardless of peer coaching. This is an important finding because it demonstrates how the preservice student views teaching: a question answer pattern rather than an interactive procedure.

The final conclusion was that post conferences of preservice teachers do involve the discussion of more topics on pedagogy than the nonpeer coached groups. The peer coached group also demonstrated a higher level of understanding and insight about the teaching process. This was due to the constant interaction between the pair discussing the teaching process. The peer coached groups had a constant focus when they were together and discussing class events. This made their planning, teaching, observing, feedback even stronger.

Implications

The findings and conclusions of this study lead to several implications for preservice teachers, teacher educators, supervisors, and cooperating teachers. The first is that peer coaching implemented in preservice teacher education programs can help preservice teachers develop the ability to identify teaching skills. This process helps the preservice teacher to focus on specific skills or theories through demonstration, practice (observing another), feedback, and self practice with feedback. The preservice teacher is cognitively moving from the
concrete, specific skill and replication, to the abstract, observation and application. By giving the preservice teacher directed activities or skills to practice at the beginning of the early field experience permits the student to apply the theory of the class to "real teaching" situations in the classroom, thus allowing the student and the peer coach to discover the linkages of theory to practice.

Next, skills used in preservice peer coaching can be increased within a short time (ten weeks) frame. This appears slightly different from Joyce & Showers recommendation which included seventeen practices and six months. The preservice teacher is developing beliefs, philosophies, and strategies, whereas previous studies were conducted on inservice teachers who had already formulated their beliefs, philosophies, and strategies. Oftentimes these established beliefs interfere with new strategies and procedures. The eagerness of the preservice teacher to learn and try different techniques suggest that early field experiences need to capitalize on this desire to learn.

Then, peer coaching needs to be utilized with the preservice teacher in the early field experience of the teacher education program to further increase satisfaction with the field experience. Students' responses were more positive with the field experience when placed in peer coaching situations and suggested that the support and feedback received from the peer coach helped the preservice teacher to have a more favorable view of the field experience. This demonstrates that the support received in the
early field experience is very important for the preservice teacher and peer coaching helps in establishing this positive rapport; therefore, its implementation in the early field experience is needed.

Following this, students need time and direction to discuss teaching situations. Peer coaching is that vehicle which can provide this dialoguing. The student is building upon prior experiences from real teaching situations. The preservice teacher is developing collaborative skills by the interactions with the peer coach. This provides the preservice teacher with a set of new strategies for problem solving. The conferences at the beginning are more focused, but as the preservice teacher progresses through the program to student teaching the conferences between peers become more collaborative. This begins to fulfill the reform movements desire to equip teachers to become leaders in the professionalization of teaching.

Finally, preservice teacher education programs need to analyze their practicum components. It appears that peer coaching is a worthwhile strategy which would not add expense to the financial situation of colleges or universities. At the early field practicum experience the use of technical coaching would be implemented, moving to challenge coaching for the methods field experience, to collegial coaching for student teaching. This is moving from a concrete and directed forum in the early stages to a more open and collegial forum in the final stage, thus equipping the preservice teacher to move into the inservice stage as collaborator.
Recommendations

Based on the findings of this investigation, the following lines of inquiry are recommended for further study:

1. This study should be replicated with students in student teaching experiences.

2. This study needs to be replicated with secondary students who are more content specific and time bound to schedules.

3. A follow-up study needs to be conducted on the discourse of the post conference using content analysis. An example would be prior experience.

4. Research needs to be conducted on the preservice teacher with regards to self-evaluation during post conference. An example would be age.

5. Research needs to be conducted on other teaching skills and strategies to see if there is an increase with performance and mastery using the peer coaching strategy in the early field experience and later field experiences.

6. A longitudinal study of peer coaches in employment situations should be conducted to determine if peer coaching elements are part of the inservice’s teachers repertoire.
7. A further investigation should involve the effect peer coaching has upon the cooperating teachers attitude and interest.

8. Further research should be conducted on the triad of the peer coaching team (peer coaches and cooperating teacher) in joint post conference.

9. Further research should be done to investigate the skills and strategies of the inservice teachers and its influence upon the peer group. Examples may include reflectivity, use of induction, or problem solving techniques.

Peer coaching is a technique which has many avenues for investigation. It could be the bridge which connects the preservice teacher with the inservice teacher. It is only through further study that future educators will be able to dismiss this statement or build upon this statement.
LIST OF REFERENCES


APPENDIX A

TEACHING OBSERVATION INSTRUMENT PART I & PART II
Preservice Student __________ Date __________ Observer __________

Teaching Skills Observation Sheet

<table>
<thead>
<tr>
<th>Preservice Teacher Skill</th>
<th>frequency total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Points out what is important for students to learn:</td>
<td></td>
</tr>
<tr>
<td>1. Informs students of lesson objectives</td>
<td></td>
</tr>
<tr>
<td>2. Repeats important points for students to learn</td>
<td></td>
</tr>
<tr>
<td>Explains instructional content</td>
<td></td>
</tr>
<tr>
<td>3. Examples are used</td>
<td></td>
</tr>
<tr>
<td>Provides for student assimilation and synthesis</td>
<td></td>
</tr>
<tr>
<td>4. Repeats things students do not seem to understand</td>
<td></td>
</tr>
<tr>
<td>Assesses and tries to ensure student understanding</td>
<td></td>
</tr>
<tr>
<td>5. Asks questions</td>
<td></td>
</tr>
<tr>
<td>individual</td>
<td></td>
</tr>
<tr>
<td>group</td>
<td></td>
</tr>
<tr>
<td>Provides opportunities for students to ask questions</td>
<td></td>
</tr>
<tr>
<td>Provides opportunity for practice</td>
<td></td>
</tr>
</tbody>
</table>
Part II Please respond to the items below based on your observation of this teaching episode. On the scale provided, circle the number which best corresponds to your perception relative to that item

<table>
<thead>
<tr>
<th>The instructor</th>
<th>strongly disagree</th>
<th>agree</th>
<th>strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. informed students of lesson objectives</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. repeated important points</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. used examples</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. repeated things students did not seem to understand</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. asked questions to assess student understanding</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. provided opportunities for students to ask questions</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. provided opportunity for practice</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. Overall rating</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
APPENDIX B

TEACHER CLARITY BEHAVIORS

OPERATIONAL DEFINITIONS
What is teacher clarity?

Teacher clarity is a set or cluster of several teacher behaviors related to student achievement and satisfaction. These behaviors may seem very common sense to you, and they may be, but well-trained teachers who are skilled and consistent in the use of these behaviors can aid their pupils to better learn course material. By being skilled in teacher clarity, it is also possible to increase the satisfaction students feel about you and your course.

The seven Teacher Clarity behaviors of concern in this study are divided into four clusters. Although a teacher skilled in the behaviors makes use of them throughout the lesson, the clusters relate to the order in which the behaviors are likely to be used in lesson presentation (Giebelhaus, 1993).

Following is an outline and description of the Teacher Clarity skills/behaviors which are of concern in this study.

I. The teacher emphasizes important aspects of instruction and instructional content.

   1. Informs students of lesson objectives in advance.
      The teacher begins the lesson by informing students of the content material or concepts to be covered. This brief introduction also informs students of their responsibility with respect to the material.

---

1 The following material has been drawn from The Clarity Training Program: Instructor’s manual, part of the unpublished doctoral dissertation at The Ohio State University by Kim Metcalf (1989). An investigation of the efficacy of a research-based regimen of skill development on the instructional clarity of preservice teachers.
2. *Repeats important points for students to learn.*
   The teacher during the lesson, repeats (for emphasis) specific aspects of the content of instruction (e.g. point, rule, idea, etc.). This behavior may be initiated by the teacher or it may occur while he/she is elaborating on some statement/comment made by a student or during the review process. It does not, however, occur as a direct response to a student question or comment indicating the student does not understand something that has been said (taught).

II. Explains/demonstrates how to do the work by using examples.

3. *Examples are used.*
   The teacher makes use of verbal, written or practical examples when explaining some aspects of instructional content.

III. Provides for student understanding and assimilation of instructional content.

4. *Repeats things when students do not understand.*
   The teacher repeats aspects of the content which students directly or indirectly communicate to the teacher that they do not understand.

IV. Assesses and tries to ensure student understanding of the content of instruction.

5. *Asks questions to find if students understand.*
   The teacher, after explaining, repeating or reviewing some aspect of the instructional content, asks a direct question ("Is that clear?"; "Do you understand?") or asks questions about the content presented, to determine whether students understand what has been presented.
6. **Allows time (pauses) for students to ask questions and answers students' questions.**

   After explaining, repeating, or reviewing some aspect of the instructional content, the teacher deliberately pauses to provide time for students to ask questions. When questions are asked, the teacher answers content related questions.

7. **Provides opportunities for students to practice (work examples).**

   The teacher, during the class period, provides specific time for students to do written or practical examples related to the content of instruction. This may take the form of individual seatwork or group work. The teacher may play an active role in the case of group work.
APPENDIX C

SHULMAN’S MODEL OF PEDAGOGICAL REASONING AND ACTION
Preservice Student # Week # Observer #

Model of Pedagogical Reasoning and Action

<table>
<thead>
<tr>
<th>Frequency of occurrence</th>
</tr>
</thead>
</table>

**Comprehension**

- Purposes, subject matter structures, ideas within and outside the discipline

**Transformation**

- Preparation: critical interpretation and analysis of texts, structuring and segmenting, development of a curricular repertoire, and clarification of purposes
- Representation: use of a representational repertoire which includes analogies, metaphors, examples, demonstrations, explanations
- Selection: choice from among an instructional repertoire which includes modes of teaching, organizing, managing, and arranging
- Adaptation and Tailoring to Student Characteristics: consideration of conceptions, preconceptions, misconceptions, and difficulties, language, culture, and motivations, social class, gender, age, ability, aptitude, interests, self-concepts, and attention.

**Instruction**

- Management, presentations, interactions, group work, discipline, humor, questioning, and other aspects of active teaching, discovery or inquiry instruction, and the observable forms of classroom teaching.

**Evaluation**

- Checking for student understanding during interactive teaching.
- Testing student understanding at the end of lessons or units.
- Evaluating one's own performance, and adjusting for experiences.

**Reflection**

- Reviewing, reconstructing, reenacting and critically analyzing one's own and the class's performance, and grounding explanations in evidence.

**New Comprehension**

- Of purposes, subject matter, students, teaching, and self
- Consolidation of new understandings, and learnings from experience
APPENDIX D
SATISFACTION ATTITUDE SURVEY
I participated in a Peer Group or Individually.

Part I Rate the following words as they apply to your preservice field experience.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The field experience provided</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Collegiality
   | 1 | 2 | 3 | 4 | 5 |

2. Technical feedback
   | 1 | 2 | 3 | 4 | 5 |

3. Analysis of application
   | 1 | 2 | 3 | 4 | 5 |

4. Adaptation to students
   | 1 | 2 | 3 | 4 | 5 |

5. Personal facilitation
   | 1 | 2 | 3 | 4 | 5 |

6. Overall rating
   | 1 | 2 | 3 | 4 | 5 |

Part II

Please respond to the following statements.

1. The parts of the field experience most useful were

2. Overall, how would you rate your field experience with regard to professional growth. Please explain.