Effects of preservice peer coaching on student teachers in special education

Kit-hung Lee

University of Nevada, Las Vegas

Follow this and additional works at: https://digitalscholarship.unlv.edu/rtds

Repository Citation
https://digitalscholarship.unlv.edu/rtds/3103

This Dissertation is brought to you for free and open access by Digital Scholarship@UNLV. It has been accepted for inclusion in UNLV Retrospective Theses & Dissertations by an authorized administrator of Digital Scholarship@UNLV. For more information, please contact digitalscholarship@unlv.edu.
INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand comer and continuing from left to right in equal sections with small overlaps.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

Bell & Howell Information and Learning
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA
800-521-0600

UMI®

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
EFFECTS OF PRESERVICE PEER COACHING ON STUDENT TEACHERS IN SPECIAL EDUCATION

by

Kit-hung Lee

Bachelor of Arts
Hwa Kiu College, Hong Kong
1987

Master of Education
University of Nevada, Las Vegas
1992

Educational Specialist
University of Nevada, Las Vegas
1996

A dissertation submitted in partial fulfillment of the requirements for the

Doctor of Education Degree
Department of Special Education
College of Education

Graduate College
University of Nevada, Las Vegas
August 2000

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
The Dissertation prepared by

Kit-hung Lee

Entitled

Effects of Preservice Peer Coaching on Student Teachers in Special Education

is approved in partial fulfillment of the requirements for the degree of

Doctor of Education

Examination Committee Chair

Dean of the Graduate College

Examination Committee Member

Examination Committee Member

Graduate College Faculty Representative
ABSTRACT

Effects of Preservice Peer Coaching on Student Teachers in Special Education

by

Kit-hung Lee

Dr. Susan P. Miller, Examination Committee Chair
Professor of Special Education
University of Nevada, Las Vegas

The purpose of this study was to investigate the implementation of a peer coaching program among Traditional and Non-Traditional student teachers and to compare their subsequent teaching behaviors and attitude toward peer coaching. The variables investigated through direct class observation were effective and ineffective teaching behaviors using the criteria of the Florida Performance Measurement System (FPMS). Attitude toward peer coaching was investigated using survey methodology.

Data analysis indicated the following findings. There was a statistically significant ordinal interaction effect between the group and timing of the assessment in effective teaching behaviors after participation in peer coaching. There was neither a statistically significant interaction effect nor main effects for pre- and post-assessment and for the Traditional group and the Non-Traditional group in ineffective teaching behaviors. There was neither a statistically significant interaction effect nor main
effects in their attitude toward peer coaching for the pre- and post-assessment, and for the Traditional group and the Non-Traditional group.

Analysis of the open-ended questions on the attitude survey solicited qualitative information involving different categories of responses regarding the advantages, disadvantages, and purposes of peer coaching. Some conclusions were drawn from the responses: (a) The frequency of most responses was low in number; (b) Both groups of student teachers identified more advantages of peer coaching upon completion of the intervention; (c) Disadvantages identified after the project also increased for both groups after the peer coaching process which included: excessive time consumption, undesired time away from home classroom, and logistical concerns; and (d) After the project, the most frequently reported purposes for using peer coaching were improving teaching skills and sharing ideas or strategies with peers. In general, the Traditional and Non-Traditional student-teachers showed similar attitudes toward peer coaching. On completion of the intervention, both groups recognized more advantages and disadvantages of peer coaching. Also, student-teachers identified more purposes for peer coaching. Practical implications for peer coaching and suggestions for further research are discussed in Chapter five.
TABLE OF CONTENTS

ABSTRACT............................................................................................................. iii

LIST OF TABLES................................................................................................ viii

ACKNOWLEDGMENTS........................................................................................... ix

CHAPTER 1  INTRODUCTION............................................................................. 1
  Statement of the Problem................................................................................ 3
  Significance of Problem................................................................................ 4
  Definitions of Terms...................................................................................... 5
  Delimitations.................................................................................................. 7
  Limitations..................................................................................................... 7
  Summary........................................................................................................ 8

CHAPTER 2  REVIEW OF RELATED LITERATURE......................................... 10
  History of Peer Coaching............................................................................. 10
  Peer Coaching Models................................................................................ 11
  Literature Review Procedures................................................................... 20
  Peer Coaching Studies............................................................................... 21
    Inservice Peer Coaching Studies.............................................................. 21
    Summary of Inservice Coaching Studies.................................................. 37
  Preservice Peer Coaching Studies.............................................................. 38
    Summary of Preservice Peer Coaching.................................................... 61
  Alternative Certification Programs.............................................................. 62
  Comparison Studies Involving Traditional and Alternative
    Licensure Preservice Students................................................................. 64
  Summary of Alternative Certification Studies......................................... 77
  Peer Support in Alternative Certification Programs................................. 78
  Conclusions Related to Peer Coaching and Alternative
    Certification Literature................................................................................ 79

CHAPTER 3  METHOD....................................................................................... 81
  Research Hypotheses................................................................................... 81
  Description of the Subjects......................................................................... 82
  Acquiring Participants.................................................................................. 83
<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1</td>
<td>Demographic Information of Student-Teachers</td>
<td>84</td>
</tr>
<tr>
<td>Table 2</td>
<td>Demographic Information of Supervisors</td>
<td>85</td>
</tr>
<tr>
<td>Table 3</td>
<td>Interrater Observation Agreement (Training Period)</td>
<td>89</td>
</tr>
<tr>
<td>Table 4</td>
<td>Interrater Observation Agreement (Preassessment)</td>
<td>90</td>
</tr>
<tr>
<td>Table 5</td>
<td>Interrater Observation Agreement (Postassessment)</td>
<td>93</td>
</tr>
<tr>
<td>Table 6</td>
<td>Group Mean and Standard Deviation Scores for Teaching Behaviors</td>
<td>96</td>
</tr>
<tr>
<td>Table 7</td>
<td>Group Mean and Standard Deviation for Attitude Measure Toward Peer Coaching</td>
<td>97</td>
</tr>
<tr>
<td>Table 8</td>
<td>Frequencies (Percents) of Student-Teachers’ Responses to Each Category of Advantages on Peer Coaching</td>
<td>101</td>
</tr>
<tr>
<td>Table 9</td>
<td>Frequencies (Percents) of Student-Teachers’ Responses to Each Category of Disadvantages on Peer Coaching</td>
<td>103</td>
</tr>
<tr>
<td>Table 10</td>
<td>Frequencies (Percents) of Student-Teachers’ Responses to Each Category of Purposes for Peer Coaching</td>
<td>105</td>
</tr>
</tbody>
</table>
ACKNOWLEDGEMENTS

I am profoundly grateful to Dr. Susan Miller who gave me unwavering support. Her dedication was invaluable to me. Her skills as a scholar and teacher have blessed me professionally. Without her, my doctoral study and the dissertation would not have been accomplished. No words will ever adequately express my thankfulness to her.

I am also deeply grateful to Dr. Kyle Higgins, Dr. Sherri Strawser, and Dr. Eunsook Hong for their professional input and encouragement. Their guidance and assistance in formulating the dissertation was priceless. The support and constant encouragement of Dr. Thomas Pierce, Dr. Nasim Dil, and Dr. Colleen Thoma were precious to me as I worked toward the completion of my dissertation. My personal gratitude is owed to Dr. Joe Crank who has always been my motivational coach. Other faculty members and staff of the Department of Special Education have inspired me in many different ways and I want to extend my thankfulness to them.

My most sincere appreciation is dedicated to Nancy Brown, the university supervisors and the student teachers in my study. They helped me tremendously during the data-collection process of the research. Paul Nakayn, the statistical and research consultant, deserves kudos for his professional assistance.
I am grateful to my mother for her eternal support, and I am blessed to have the love of my children, Sabina Chow, Renee Chow and Francis Chow.
CHAPTER 1

INTRODUCTION

Over the past two decades, educational reform has received a significant amount of attention from both educators and researchers. Reports such as "A Nation at Risk" (National Commission on Excellence Education, 1983) clearly articulated the need to improve schooling in America (Pierce & Hunsaker, 1996). One of the primary goals of the educational reform movement was to improve teacher effectiveness. It was hoped that increased teacher effectiveness would promote better student learning outcomes. The need for strategies to improve teaching effectiveness led to the development of many in-service staff development programs. School district personnel instituted inservice days and offered workshops to help teachers improve performance in the classroom.

Researchers realized that this approach to staff development was limited in its effectiveness because few teachers actually transferred what they learned in the workshops into their classroom teaching (Joyce & Showers, 1982; Showers & Joyce, 1996). For example, only 10 percent of teachers transferred what they learned in workshops into their classrooms.

Thus, educators and researchers began to explore more comprehensive staff development methods for supporting teachers who wanted to use new teaching techniques or curricula with their
students. Interest in the notion of providing ongoing feedback and support to teachers within their classrooms, rather than only offering isolated workshop experiences, has continued (Showers & Joyce, 1996). One method for providing this type of staff development is peer coaching.

Peer coaching is a process whereby teachers help other teachers through collegial interaction. Showers (1985) identified three purposes of peer coaching: (a) to build communities of teachers engaged in the study of their profession, (b) to develop a common language necessary for collegial study to obtain new knowledge and skills, and (c) to provide follow-up training necessary for the development of new skills and strategies.

Typically, teacher participation in peer coaching programs is voluntary. Teachers who wish to participate form peer coaching teams of two to three members each (Showers, 1985). Teams meet to discuss what they want to work on to improve their teaching. Teachers then take turns observing one another in their classrooms and providing supportive feedback. The process of peer coaching results in (a) teacher companionship, (b) the provision of technical feedback, (c) analysis of teaching applications, (d) adaptations to meet students' needs, and (e) increased teacher experimentation and risk taking (Joyce & Showers, 1982, 1983).

Clearly, these outcomes are beneficial for inservice teachers who are willing to participate in peer coaching. Such participation does require an openness to collaborate with peers and a high level of trust among teachers (Joyce & Showers, 1982, 1983). The integration of peer coaching processes at the preservice level (i.e.,
teacher preparation programs) may help promote supportive attitudes toward collaboration and coaching while simultaneously helping future teachers acquire and refine their teaching skills. Limited research has been conducted related to the use of peer coaching in preservice education. Of the research that has been conducted, little emphasis has been placed on measuring students' opinions about the process of coaching, and none of the research explored the differential effects of peer coaching on various types of preservice students (e.g., traditionally and non-traditionally prepared).

Statement of the Problem

The problem investigated in this study was whether participation in preservice peer coaching differentially improves the teaching skills of Traditional and Non-Traditional student-teachers. Attitudes toward peer coaching among these two groups also were explored. Specifically, the following questions were addressed:

1. Is there a differential change from pre- to post-assessment scores in the acquisition of effective teaching behaviors after participation in peer coaching between Traditional and Non-Traditional groups of student-teachers?

2. Is there a differential change from pre- to post-assessment scores in the reduction of ineffective teaching behaviors after the participation in peer coaching between Traditional and Non-Traditional groups of student-teachers?
3. Is there a differential change from pre- to post-survey scores in their attitude toward peer coaching between the Traditional and Non-Traditional group of student-teachers? In addition, student-teachers’ views regarding peer coaching were investigated. The following questions were addressed:

1. What are the advantages of peer coaching?
2. What are the disadvantages of peer coaching?
3. For what purposes would you use peer coaching?

Significance of Problem

The problem investigated in this study is important for several reasons. First, this research will strengthen the knowledge base concerning the use of peer coaching in traditional and non-traditional preservice education programs. Peer coaching interaction among these two groups of preservice teachers will be examined. Second, the investigation of the attitude of traditional and non-traditional preservice teachers toward peer coaching will provide insight for future teacher preparation. Third, the use of effective collaboration and coaching may maximize the traditional and non-traditional preservice students’ transfer of knowledge from their college course work to their field-based experiences in classroom settings. Finally, collaboration among teachers, both general and special education, is especially important given the current educational reform paradigm. It is hoped that integrating opportunities for collaboration in preservice teacher preparation programs will increase the potential for continued collaboration.
during the induction year and beyond. Collaboration is important because it promotes professional growth among teachers (Voltz, 1995).

Definitions of Terms

For the purposes of this study, the following definitions are used:

**Alternative certification.** "A process in which the state licenses a person who has not completed a typical state-approved or equivalent program of studies designed to prepare individuals to teach." (Wise, 1994, p. 139)

**Attitude.** "An enduring system of evaluative, affective reactions based upon and reflecting the evaluative concepts or beliefs which have been learned about the characteristics of a social object or class of social objects." (Shaw & Wright, 1967, p. 3)

**Coach.** A coach serves two major functions during the coaching process: (a) the first is providing feedback to the teacher on specific methodology, and (b) the second is providing support to the teacher (Neubert, 1988).

**Coachee.** An individual who receives coaching.

**Coaching.** Coaching usually involves a collegial approach to the analysis of teaching for the purpose of integrating mastered skills and strategies into a curriculum, a set of instructional goals, a time span and a personal teaching style (Joyce & Showers, 1981). "Coaching is on-site assistance for a teacher who is attempting to apply a new teaching skill." (Neubert, 1988, p. 7)

**Collaboration.** "Collaboration involves both the teacher and coach sharing what each other thinks are appropriate actions and
then agreeing on a plan to follow.” (Koballa, Eidson, Finco-Kent, Grimes, Kight, & Sambs, 1992, p. 43). “Collaboration is a process of collaborative professional development by which small teams of experiences teachers work collaboratively for their own professional growth.” (Glatthorn, 1990, p. 31).

**Effective teaching behavior.** Effective teaching behaviors are behaviors that have been shown to increase student achievement when demonstrated by classroom teachers. Behaviors in this study were selected from 19 behaviors contained in the Florida Performance Measurement System (FPMS) (Peterson, Micceri, & Smith, 1985).

**Ineffective teaching behavior.** Ineffective teaching behaviors are behaviors that research has shown to decrease student achievement when demonstrated by classroom teachers. In this study, ineffective behaviors were selected from 19 behaviors contained on the Florida Performance Measurement System (FPMS) (Peterson, Micceri, & Smith, 1985).

**Inservice teacher.** Teachers who are in the teaching profession.

**Non-Traditional preservice teacher.** A prospective teacher who entered a cohort initial licensure teacher education program in the Department of Special Education at the University of Nevada, Las Vegas. These participants had been employed by the Clark County School District for at least three years as educational assistants or substitute teachers prior to their enrollment at UNLV. They completed their final 77 hours of course work in two semesters and a summer.
**Preservice teacher.** Student trainees learning to be teachers.

**Scale For Coaching Instructional Effectiveness (SCIE).** An instrument developed for use by teachers to observe colleagues in classroom settings and provide feedback in the form of professional and collegial critiquing for instructional improvement (Hasbrouck & Parker, 1995).

**Staff development.** A system within an educational organization which provides opportunities for individual professional growth and effective school improvement through theory, demonstration, practice and feedback (Joyce & Showers, 1983).

**Traditional preservice teacher.** A prospective teacher who is completing an initial-licensure teacher preparation program in the Department of Special Education at the University of Nevada, Las Vegas.

**Transfer.** The transformation of a skill acquired from training into one’s active teaching repertoire (Joyce & Showers, 1983).

**Delimitations**

The scope of this study was delimited in three ways. First, the study was restricted to preservice student-teachers (Traditional and Non-Traditional) in the Department of Special Education at the University of Nevada, Las Vegas. Second, the study included only student-teachers who were completing the requirements for an initial teaching license. Third, only student-teachers enrolled in 12 weeks of student teaching were included.
Limitations

Since this study included only student-teachers, the findings should not be generalized to other preservice students (e.g., those enrolled in practica courses or in different alternative certification programs). Moreover, the results of this study should not be generalized to individuals who are already licensed to teach. Caution should be exercised in generalizing the findings from this study to student-teachers at other universities or to student-teachers who enroll in longer or shorter student teaching experiences.

Summary

The current educational reform movement is emphasizing the importance of improving teaching skills (Pierce & Hunsaker, 1996). Thus, it is important to identify validated practices for improving teacher effectiveness both at the inservice and preservice levels. Based on a survey of teacher preparation programs, Long (1997) concluded that the number of field-experiences in teacher-education programs has increased. Thus, there have been more opportunities for translating theory into practice. Henry (1983), however, reported that increasing field-experiences alone did not help student teachers understand their specific teaching ability or evaluate major problems encountered during student teaching. Thus, more specific strategies or approaches need to be developed and refined. Peer coaching is one approach that appears to promote increased teacher effectiveness through the establishment of collaborative relationships. The intent of this study was to contribute to the knowledge base related to the use of peer coaching in traditional and
non-traditional teacher preparation programs. The Traditional and Non-Traditional student-teachers were taught to use peer coaching as a vehicle to improve their teaching skills. Specifically, the increase of effective teaching behaviors, the decrease of ineffective teaching behaviors, and attitudes toward peer coaching were measured. Their views on advantages, disadvantages, and purposes of peer coaching were investigated with open-ended questions. The results of the study may have direct implications for teacher educators and preservice teachers.
CHAPTER 2

REVIEW OF RELATED LITERATURE

There are two purposes for this chapter. The first is to summarize and analyze existing professional literature related to peer coaching practices that are used to improve teaching skills. The second purpose is to review literature involving comparisons between traditional and non-traditional teacher preparation programs. The chapter begins with a discussion of the history of peer coaching and a variety of peer coaching models. Next, the review procedures used to locate literature for this chapter are described. Then, peer coaching studies with inservice teachers and peer coaching studies with preservice teachers are reviewed. An overall summary of the research on peer coaching is provided. The chapter concludes with a review of literature involving non-traditional teacher certification programs.

History of Peer Coaching

Peer coaching originated in the late 1970s as a staff development process designed to assist inservice teachers to master new skills in a nonthreatening and supportive environment (Showers & Joyce, 1996). The initial success of peer coaching resulted in continued development and refinement of coaching procedures throughout the 1980s and 1990s. Consequently, a variety
of inservice peer coaching models evolved and information on the success of these models was disseminated throughout the United States (Showers & Joyce, 1996). Specifically, educators and researchers reported improved results in staff development and transfer of training after implementing peer coaching models (Joyce & Showers, 1980, 1981, 1982, 1983; Showers, 1982, 1984, 1985; Servatius & Young, 1985; Neubert & Bratton, 1987; Garmston, 1987; Joyce, Murphy, Showers, & Murphy, 1989; Little, 1985; Sparks, 1990; Williamson & Russell, 1990; Cox, Gabry, & Johnson, 1991).

The success of peer coaching models with inservice teachers caused teacher educators to begin thinking about the use of peer coaching with preservice teachers. Beginning in the 1980s and continuing into the 1990s, research related to the use of peer coaching in preservice education emerged. At the preservice level, peer coaching has been used to help future teachers develop initial teaching skills while concurrently promoting the importance of collaboration and support in the teaching profession.

Peer Coaching Models

In 1976, Dornbusch, Deal, Plumley and Roper created a peer coaching model that involved teachers helping teachers through collegial interaction. Their model included seven steps: (a) choose a partner from among teaching colleagues, (b) get feedback from school-aged students with a questionnaire, (c) select evaluation criteria, (d) evaluate self, (e) observe colleague’s teaching based on selected criteria and follow with structured conference to discuss the observation, and (f) develop a plan for professional development.
The last stage was comprised of three phases: preconference activities, the final conference, and post-conference activities. The process is quite similar to what has become known as peer coaching. It is interesting to note that these researchers recommended adapting the model for use with teacher trainees.

Bruce Joyce coined the term “peer coaching” and both he and Beverly Showers created a peer coaching model designed to facilitate transfer of learning among teachers (Brandt, 1987). Specifically, they were concerned about teachers not being able to transfer what they learned in university courses and/or inservice workshops into their public school classrooms. Joyce and Showers (1983) emphasized the importance of transfer of teaching skills from teacher training programs to implementation in the classroom by saying:

All of us are less skillful with a model of teaching that is new to us than we are with the ones we have been using for some time. Successful transfer requires a period of labor during which the skill is practiced in its context until it is tuned to the same level of fluidity as the rest of one’s repertoire (p. 15).

Joyce and Showers (1982) stated that the process of transferring teaching skills is similar to the process athletes use when learning and mastering various sports. They noted that in both sports and teaching, there are three necessary components: demonstration, practice, and feedback. The peer coaching model they developed integrated these three important components.
Showers (1985) identified three purposes for peer coaching: (a) form teacher groups to improve their own teaching skills, (b) establish collegial interaction for acquiring new skills, and (c) monitor professional development and growth. In Joyce and Showers' inservice peer coaching model, teachers who want to improve their teaching or learn to implement a new curriculum volunteer to be coaches and coachees. Teachers who are interested in participating typically form triad coaching teams and meet to identify their staff development needs. Peer coaches observe one another's teaching performance, provide objective feedback, and then assist with other teaching problems. Typically, the process of coaching results in: (a) teacher companionship, (b) the provision of technical feedback, (c) analysis of teaching applications, and (d) adaptations to meet students' needs (Joyce & Showers, 1982, 1983). The training of teachers prior to implementing the coaching model is very important and should include theories of teaching, demonstrations, opportunities for practice, and feedback (Showers, 1984).

Mello (1984) defined the term "coaching" as "a generic term used to describe a process vehicle for promoting improvement of individual skills and thus increased effectiveness" (p. 7). He developed the Peer-Centered Coaching Model that involves several teachers in a group supporting each other as they acquire instructional skills. The Peer-Centered Coaching Model has two components: peer observation and support. Teachers form groups of two or three to team up for observations (6 to 8 sessions). They meet and decide what to target for observation (e.g., research-based practices the teachers learned from training) and then set related
goals. The coachee completes a self-critique based on the collaborative discussion. The two teachers share their experiences, and ideas. Guidelines are set for developing a schedule, using techniques for observation, and choosing feedback criteria. After observing one another, non-judgmental feedback is provided on specific practices previously agreed upon.

There are important underlying assumptions of the Peer-Centered Coaching model according to Mello (1984). The assumptions are: (a) teachers are the primary experts in instruction, (b) teachers believe in each other, (c) teachers provide the best source of help for each other, (d) teachers believe they can meet their needs, (e) feedback is necessary for change, (f) teachers will continue to support each other when they receive support, (g) an environment of mutual trust is crucial to change and instructional improvement, (h) research-based instructional skills are effective, and (i) the support of educational leaders is critical to the coaching.

Mello (1984) stressed the importance of feedback because it creates awareness of needed change and motivates individuals to master new behaviors. An added component of the Peer-Centered Coaching Model is a Support Group, which consists of four teams of two or three teachers. Mello suggested that support groups meet once every other week, especially at the beginning of the coaching process. The Support Group helps teachers continue to improve their instructional effectiveness with professional stimulation, practical help, and support. Group members share successes, failures, encouragement, and frustration within a safe context.
Garmston (1987) emphasized that it is very important to choose an appropriate model for coaching. He described the differences between three coaching models for teachers: technical coaching, collegial coaching, and challenge coaching. As cited in Showers (1985), Garmston stated that technical coaching is designed to help teachers: (a) practice new strategies more frequently and develop greater skill, (b) use the new strategies more appropriately, (c) retain knowledge about the new strategies for longer periods of time, (d) teach the new strategies to their students, and (e) understand the purposes and uses of new strategies more clearly (pp. 18-19).

Garmston (1987) stated that technical coaching is sometimes problematic because it allows teachers to advise and evaluate each other, which may result in teachers feeling intimidated. In contrast, collegial coaching uses a different approach that helps teachers reflect on their work in depth and without judgment.

Collegial coaching concentrates on areas of interest to the observed teacher. In other words, the observed teacher's priorities determine the focus of coaching. The peer coach collects data based on these priorities. Data on student performance in the class also are collected. The coach helps the teacher analyze and make decisions for improvement that will affect student learning in positive ways.

Challenge coaching helps groups of teachers solve a specific instructional problem. Challenge coaching typically is used to address a persistent problem. Team problem-solving efforts generate insightful and practical improvements for the problem (e.g.,
a new teaching strategy). Technical and collegial coaching usually involves pairs of teachers but challenge coaching typically involves small groups that may include non-teaching individuals such as teaching aides, librarians, or administrators. According to Garmston, “although all coaching positively affects teachers’ self-concepts, work environments, and professional commitment, collegial and challenge coaching probably do this better than technical models” (p. 21). He suggested that more coaching is better regardless of which model is used. Overall, coaching helps make schools more effective (Garmston, 1987).

Neubert and Bratton (1987) developed another successful peer coaching model for general and special education teachers. In this model, special education teachers are identified as team coaches. The team coach and the general education teachers plan, teach, and evaluate lessons together. The team coach: (a) demonstrates knowledge of the method being learned, (b) demonstrates success with the method in the classroom, (c) provides constructive support, and (d) is accessible to the general education teacher for planning and conferencing. Neubert and Bratton also described a team coach as:

a ‘tenant’ in another teacher’s classroom. It is essential that the general education teacher maintains ownership of the lesson, students, and classroom. The tenant is responsible for what occurs in the apartment, but the owner is the final authority. The coach is there to facilitate, not dictate (p. 32). Stroble and Lenz (1990) described a coaching model for preservice teachers to use during methods courses. The purpose of
their model is to promote collegial learning environments among preservice teachers. In this model, students are coached, both by the course instructor and student volunteers, to study a teaching model, prepare an expert demonstration, and plan a workshop. The coaching model for the volunteers and their peers involves six stages; three for development and three for implementation.

Stage one is “acquires information.” Students learn about various teaching models from textbooks, lectures, and copies of lesson plans. They discuss their understanding of concepts with the instructors. Student experts prepare demonstration lessons with oral and written feedback from the instructors.

Stage two is “formulates an instructional plan.” Students choose a concept from their particular content area (e.g., science, social studies) and develop a lesson for teaching the concept. Student experts seek supervision from the instructors regarding their written plan for their demonstration lessons.

Stage three is “sketches the instructional plan.” Workshop sessions are conducted during class time. Students work in groups to plan their lessons, seeking help from instructors and student experts whenever necessary. At the same time, student experts finish up the instructional plan and get ready for a demonstration session.

Stage four is “formalizes the instructional plan.” Students observe the student expert demonstrate a teaching model. Class students provide feedback specific to the model. The student expert answers questions and class students suggest refinements while seeking advice for their own teaching. The lessons of the class
students are developed and ready for delivery after receiving coaching from peers, student experts, and the instructors in the areas of content and procedures.

Stage five is "models the instructional plan." Class students teach their lesson to a small group of peers. The lessons are videotaped. Students in the room provide oral feedback during the teaching session. Later, the student who taught the lesson completes a self-evaluation while viewing the videotape.

Stage six is "analyzes the instructional plan." When students study new concept models later in the semester, they plan and present another lesson to a group of peers. Students submit their videotapes to the instructors for feedback. Together, the student and instructors identify the strengths and weaknesses of the lesson (pp. 8-10).

Stroble and Lenz (1990) stressed that the format of this coaching model requires each preservice student to interact with the instructors, peers, and student experts in developing and implementing lessons. This coaching model provides students with opportunities to view different teaching styles and models during demonstration lessons by the student experts. Videotapes of the lessons serve as permanent resources that can be viewed again in the future. The practice, coaching, and feedback procedures are quite time consuming, but really benefit the preservice students (Stroble & Lenz, 1990). Specifically, the preservice students enjoy the wide variety of content areas represented in the demonstration lessons. They learn alternative models of teaching including different subject areas represented by a student volunteer. They are no longer
limited to the instructors' teaching styles and frequently feel more comfortable interacting with their peers.

Kovic (1996) developed a peer coaching model for principals to use to facilitate the success of new inclusion programs. In this model, the skills and attributes of being an effective coach are emphasized: (a) collaboration, (b) flexibility, (c) creativity, (d) effective communication, (e) leadership and initiative, (f) positive self concept, and (g) shared vision. The principal serves as a coach to general and special education teachers involved in developing an inclusion program. Specifically, the principal meets with the general and special education teachers weekly for team planning. The principal then observes the teachers, provides individual feedback based on the observations, and maintains informal daily contact. The teachers work together as a team and explore instructional alternatives for effective and inclusive teaching practices.

The researchers involved in developing each of these peer coaching models (Dornbusch, et al., 1976; Showers, 1985; Mello, 1984; Neubert & Bratton, 1987; Stroble & Lenz, 1990; Kovic, 1996) all agreed that peer coaching is a viable process for improving the teaching performance of inservice and/or preservice teachers. Moreover, there was consensus among these experts with regard to the components that should be included in peer coaching processes. The agreed-upon components for peer coaching from these researchers are: (a) preconference, (b) practice, (c) observation, (d) analysis, (e) objective, non-evaluative feedback, (f) post-conference, and (g) constructive support and trust.
The educators and researchers involved in developing these peer coaching models also agreed on the benefits of peer coaching. They stated that peer coaching: (a) promotes transfer of training into the classroom (Joyce & Showers, 1982; Showers, 1985; Brandt, 1987); (b) helps teachers master teaching skills in nonthreatening and supportive environments (Mello, 1984; Showers, 1985); (c) results in additional practice in new teaching strategies (Showers, 1985; Stroble & Lenz, 1990); (d) provides an excellent source of help for colleagues (Showers, 1985; Neubert & Bratton, 1989); (e) promotes reflective thinking, self-evaluation and increased problem solving (Mello, 1984; Garmston, 1987); (f) results in new ideas and increased insight into one's own teaching (Showers, 1985; Garmston, 1987; Stroble & Lenz, 1990); (g) provides constructive support (Mello, 1984; Neubert & Bratton, 1987); and (h) meets professional and personal needs (Showers, 1985).

Literature Review Procedures

A systematic search through three computerized data-bases (i.e., Education Resources Information Center-ERIC, Psychological Abstracts, and Dissertation Abstract International) was conducted related to peer coaching and alternative certification programs. The following descriptors were used for peer coaching literature: coaching, peer coaching, peer observation, peer teaching, teaching, inservice teacher education, preservice teacher education, teacher improvement, teacher behaviors, staff development, and instructional effectiveness. The following descriptors were used for non-traditional certification literature: cohort teacher preparation,
non-traditional certification, non-traditional teacher certification, non-traditional teacher education, non-traditional teacher licensure, alternative teacher certification, alternative teacher education, alternative teacher licensure, preservice teacher education, teacher certification, and teacher recruitment.

The following criteria were used to select data-based studies for this literature review. The coaching studies needed to have (a) research question(s) addressing the effectiveness of peer coaching for improving inservice or preservice teachers' performance when providing instruction to students in kindergarten through twelfth grades, and (b) complete research report data, including description of subjects, methodology, and results. The non-traditional certification studies needed (a) research question(s) comparing non-traditional certification with traditional certification, and (b) complete research report data, including description of subjects, methodology, and results.

Peer Coaching Studies

Peer coaching studies that met the previously stated criteria are reviewed in this section. Studies related to the use of peer coaching within inservice contexts are reviewed first. These studies are discussed in sequential order according to publication dates. Studies related to the use of peer coaching within preservice contexts are reviewed second. These studies also are discussed in sequential order according to publication dates.
Inservice Peer Coaching Studies

Showers (1984) conducted a mixed design study that included between groups and within subject comparisons related to the effectiveness of peer coaching among teachers. The purpose of the study was to investigate three aspects of peer coaching: (a) the ability of peer coaches to train teachers in the classroom application of new teaching strategies, (b) the transfer-of-training rates for coached and uncoached teachers, and (c) the influence of transfer of training on student outcomes. Participants in this study were 21 teachers from six middle and junior high schools and six peer coaches from two school districts. The coaching treatment period was from March to May, 1983.

Phase I of the study involved sample selection, pretesting, and initial training. The 21 teacher trainees learned two new models of teaching in 18 hours of instruction. The 18 hours of training occurred over five sessions. During these sessions, the peer coaches: (a) reviewed the new teaching models that trainees had learned; (b) learned about peer coaching; (c) practiced coaching skills and procedures; (d) viewed videotapes of the new models and practiced giving feedback; (e) developed strategies in multiple subject areas; and (f) planned meetings, observations, follow-up conferences and record keeping that would be used during the peer coaching process.

During Phase II (7 weeks) of the study, peer coaching began. Each peer coach observed and conferenced with their teacher trainees once a week. Weekly conferences followed observations of lessons in trainees’ classroom. Conferences focused on adopting new models of teaching, setting relevant teaching objectives, and
discussing strategies for achieving the objectives. Teacher trainees also kept logs and recorded information related to the implementation of teaching models and self evaluation. Uncoached teachers (i.e., the control group) were observed three times during the 7 weeks.

During Phase III, the students in the coachee’s classes were taught a 1-week experimental unit. Then, the students were tested over the unit material with a concept attainment test. Students had to define concepts, list concept attributes, provide examples and non-examples of the concept, and write a paragraph applying the concept in a new situation.

Anecdotal data were collected by observers using the Teacher Innovator System (TIS) to determine teacher skill levels with the strategy, such as structuring, information processing, and feedback (Showers, 1984). Teacher behavior during a lesson was coded. Data from interviews of teachers, teacher plans, and tests also were gathered. In addition to skills acquired from the new models of teaching, three factors were considered when assigning transfer of training scores: (a) appropriate use of strategies, (b) student comfort levels with the new teaching model, and (c) teacher frequency of use of the new models.

A Concept Attainment Test was administered to measure student verbal ability after the new teaching model was used. According to Showers (1984), the Concept Attainment Test focused on student categorizing activities. Students learned to place events into classes on the basis of choosing the correct cues while ignoring others. The students applied the concept attainment strategy
independently to new material. They had to choose between positive and negative exemplars of concepts. They also had to list attributes and provide examples and non-examples of the concept. Finally, they wrote a paragraph applying the concept to a new situation. On this test, students had to demonstrate behaviors identical to what their teachers would have taught them using the concept attainment strategy. Student data on the Concept Attainment Test were examined in two ways with the class teacher as one unit of analysis and with the student as the other unit of analysis.

A one-way ANOVA was used to evaluate the effects of the coaching. Results indicated that: (a) teachers could be trained within 18 hours and become coaches for their peers, (b) coached teachers demonstrated higher transfer of training than uncoached teachers, and (c) coaching significantly contributed to higher student concept attainment scores.

The coaches in the study indicated that meeting on a weekly basis at staff meetings was important for sharing ideas and providing informal consultation. The difficulties they experienced as peer coaches involved their lack of expertise with the teaching models and the logistics involved in scheduling observations and conferences. In spite of these difficulties, the coaches reported that the coaching resulted in increased use of the targeted strategies.

Kurth (1985) designed and implemented a year-long study to determine whether trained teacher coaches could help other teachers change specific instructional behaviors in the classroom. Another purpose of this study was to develop model procedures for peer coaching during reading instruction. Eight pairs of
coaches/teachers were matched from second and third grades in two elementary schools. The researcher provided training to the coaches during four 2-hour sessions. The training sessions included information on a modified version of Boyan and Copeland's supervision model (1968). The coaches also were taught specific skills for conducting observations and giving feedback. Information about specific teaching behaviors (e.g., direct instruction of reading comprehension) was included in these training sessions.

Trained assistants conducted pre- and post-treatment observations in September and April respectively. During formal reading instruction, the observers measured: (a) the amount of time spent on direct instruction in comprehension, (b) the amount of time spent on word recognition and comprehension instruction, (c) the number of children reading on independent levels, and (d) the amount of time spent on non-instructional or transitional activities.

Coaches and teachers met for 2 hours each week. Substitute teachers were hired so that teachers involved in peer coaching could visit and observe in one another's classrooms. After the observations, the coaches and teachers met to discuss teaching strategies, lesson planning, and classroom management. Information obtained during the observations was used to guide the discussion.

Results showed that teachers involved in peer coaching: (a) increased the amount of time spent on direct instruction during comprehension instruction (from 9% to 26%), (b) decreased instructional time spent on word recognition (from 42% to 21%), (c) increased the amount of time spent on teaching comprehension skills (from 22% to 38%), (d) increased the number of children reading on
independent levels (from 35% to 64%), (e) decreased the amount of
time spent on non-instructional or transitional activities (from 14%
to 8%), and (f) decreased non-instructional time during reading class
(from 16% to 8%). Teacher surveys showed growth in collegial
interaction. Analysis of the tapes suggested that coaches and
teachers developed close working relationships within a short time
and that the coaching experience was very positive. Kurth (1985)
claimed that the success of the program was due to the many
on-task conferences between the coach and the teacher.

In studying the effects of peer coaching on teachers’
achievement of their instructional goals and transfer of learning,
Munro and Elliott (1987) analyzed a peer coaching program that
occurred for one year (1984-1985) in a high school setting.
Forty-one teachers participated in a 2-day training session with a
3-hr follow-up session a month later. The goals of the peer coaching
program were to help teachers: (a) improve their instruction and
consequently improve student performance, (b) exchange
instructional methods and materials, (c) receive regular positive
feedback, and (d) break down feelings of isolation. Teachers chose
their own coaching partners and each team determined their own
objectives. Coaching teams made two observations each month
throughout the year. They developed monthly goal sheets and planned
for meetings and evaluations to assess their strengths and
weaknesses. The program director met with coaching teams every
other month.

In this study, goal achievement was not determined based on
classroom observations. Instead, data on goal achievement were
collected through interviews and two questionnaires. Data from the second questionnaire (at the end of the project) indicated that 97% of the participants reached their instructional goals. Eighty-eight percent of the teachers suggested that the peer coaching strategy made a significant difference in their instruction. Ninety-eight percent of the teachers reported that peer coaching was more helpful in achieving teaching goals than direct supervision from administrative personnel.

In 1984, a Teacher-Directed Peer Coaching Project was developed in Larchmont, New York for increasing instructional effectiveness (Anastos & Ancowitz, 1987). This model involved the use of self-evaluation and peer coaching to improve teaching skills. Participants left their classrooms for several days during the year to learn about peer coaching and to meet with the project consultant. Teachers learned about videotaping, peer coaching, and analyzing teaching skills by viewing videotapes of other teachers. The project promoted collegial interaction. Specifically, the coaching process involved: (a) discussion of lessons and teaching strategies; (b) preconference discussing the general purpose of the observation; (c) observation and videotaping by technician/teacher; (d) self-analysis of own videotape by the teacher; (e) peer interaction, analysis, and coaching (e.g., exploring alternative approaches for improvement through critique); and (f) practice with peers in and out of the classroom.

Data were collected through peer videotaping, observations, discussion, and interviews. Results indicated that the teachers' professional and personal needs were met through the use of peer
coaching. The collegial interaction process provided opportunities for participants to explore new teaching models and simultaneously improve their teaching skills and self-esteem. However, Anastos and Ancowitz (1987) noted that the experienced teachers were less willing to be videotaped and observed before initiating peer observation. They also were less willing to spend time in the coaching process. However, evaluation of the model from discussion and personal interviews indicated two common themes from the study: (a) the program met the teachers' needs for professional growth, and (b) the observation was enjoyable because they were in charge of the process. Several teachers claimed that the peer coaching process developed closeness, respect and openness among themselves.

Kwiat (1988) implemented peer coaching with three groups of mainstream, bilingual education, and English as a second language (ESL) teachers. The purpose of the study was to examine whether a peer coaching staff development program would result in positive changes in teaching behaviors. Sixteen teachers in four Illinois school districts were paired on a volunteer basis. Intensive training was provided to all teachers over a 3-day period (Phase 1) followed by in-district implementation over a 6-month period (Phase 2). The peer coaching procedures were implemented for six months. The teachers received training in two teaching methods: sheltered instruction in content (assigned to five pairs of teachers) and the whole language approach (assigned to three pairs of teachers). The sheltered instruction involved assisting limited English proficient (LEP) students to understand English. Sheltered instruction was an
instructional approach in which teachers developed concepts using the environment, physical activities, and visual aids (Kwiat, 1988). The whole language approach involved integrating listening, speaking, reading, and writing into one continuous instructional process. The coaches either chose the whole language or the sheltered instruction approach to incorporate into their peer coaching. These teachers planned mini-lessons incorporating specific strategies and presented them to other teachers. The teachers took turns being coaches, observing each other, and describing the lessons. Sometimes the partners team-taught the lessons. They coached each other while they worked with students.

The peer coaching procedures included preconferences, observations, reflective sharing, and post-conferences. The treatment was the same across teacher groups. Team-teaching was videotaped for analysis. Partners developed their own time frame for following the coaching procedures (i.e., preconference, observation, time for reflection, and post-conference). Several qualitative measures, such as attitude rating scales (50 items) and interviews, were used for data collection.

An attitude survey was administered in November and March measuring teachers' feelings about ethnic groups, foreign languages, personal work ethic, and teaching/education. There were no statistical differences found in the pre- and post-attitude surveys based on t-test scores. Findings from interviews conducted with the teachers 3 months after the implementation of peer coaching indicated that the teachers became more understanding of each other's roles and better understood the needs of their students.
Teachers reported satisfaction with the peer coaching. They did not believe coaching from experts was necessary because they were so motivated to improve their teaching skills. Concerns about peer coaching that were noted included insufficient time, lack of specific objectives during coaching, and inadequate support from the administrative level (Kwiat, 1988).

Phillips and Glickman (1991) investigated the effectiveness of a peer coaching program within an elementary school setting. Twenty-two teachers voluntarily participated in this study. Prior to beginning the study, the teachers chose their partners, identified the focus of the classroom observations, and discussed observation techniques and their own plans for improving instruction with each other. They practiced observation skills through a simulated videotaped teaching situation.

The two-part coaching program lasted from October, 1987 to May, 1988. For the first part, four staff development sessions were held to provide: (a) information on the steps in clinical supervision (pre-observation conference, classroom observation, and post-observation), (b) simulated practice of preconferences, (c) observation practice using videotaped teaching situations, and (d) information on how to conduct post-observation conferences in a non-directive and collaborative manner. The second part involved four actual peer coaching cycles.

The teachers did not have to learn a new teaching strategy or instructional program as in other studies. Instead, teachers learned active listening strategies and observation skills. The coaching process was implemented in three steps: (a) pre-observation
conference, (b) classroom observation, and (c) post-observation conference. Teachers went through three phases during the post-observation conference: (a) goal identification, (b) planning, and (c) critique. Teachers took turns as coaches for four 2-week cycles of coaching.

The study was designed to provide a description of the treatment effects for the 22 teachers who volunteered to participate in the peer coaching program. Various data collection methods were used: (a) the Paragraph Completion Method (PCM) (Hunt, Butler, Noy, & Rosser, as cited in Phillips & Glickman, 1991) to assess the conceptual level of the teachers regarding the process of peer coaching, (b) audiotapes of post-observation conferences to assess teachers' verbal behavior, (c) interviews to assess the teachers' interaction levels before and after implementation of the peer coaching approach, (d) a questionnaire that dealt with teachers' perceptions of supervisory support, and (e) a questionnaire focused on teachers' perception of the coaching program and its effect on teaching skills.

The Paragraph Completion Method was used to assess teachers' conceptual level. The teachers had to complete open-ended statements such as: "When I think about rules...", or "When I am criticized...." The teachers' answers were categorized as having low, moderate, or high conceptual levels of thought development. According to Phillips and Glickman (1991), a statistically significant difference (p > .05) was found between the peer-coaching teachers' scores before the coaching program (M = 1.89) and their scores after the coaching (M = 2.033), as measured by the Paragraph
Completion Method. Phillips and Glickman stressed that the difference was remarkable in view of the theory of Hunt, et al. that conceptual changes do not occur in less than a year's time. Eighteen of 22 teachers reported that the coaching process changed their teaching, and they were now willing to have their peers observe them "teach lessons that were more open-ended and involved more creativity and risk-taking." (p. 24).

Gersten, Movant, and Brengelman (1995) explored the use of teacher coaching to improve the quality of reading instruction for students with learning disabilities in a general education classroom. These researchers hypothesized that the implementation of new practices would be greatly enhanced through the provision of intensive and ongoing feedback to teachers. This study was conducted in an inner-city elementary school in which 99% of the student population were from a variety of minority backgrounds (68% Latino, 28% African American, 3% Asian). The study extended over a 2-year period. In this study, project staff with experience in special education and consultation and two special educators worked as coaches for 12 elementary school teachers.

During the first year of the study, one member of the project staff and one district special educator coached as a team. During the second year, the special educators served as the coaches and consulted with the project staff if special needs arose. The coaching process involved: (a) classroom observations that focused on instructional principles, student learning, and the quality and quantity of feedback provided to students, and (b) feedback sessions that focused on target students (e.g., success rate of target students.
during the lesson) and included discussion of suggestions appropriate to the realities of the classroom (i.e., concrete and practical). Coaches and teachers met weekly for observations, feedback, and planning. Initially, observations and coaching sessions took place once or twice a week but became less frequent as the study progressed.

A multifaceted data collection approach was used in this study. Coaching sessions were audiotaped. The special education teachers maintained logs and field notes that included goal statements and comments related to progress toward the goals. Additionally, teachers were interviewed within the first 6 weeks of the study and every 4 months thereafter. During these interviews, teachers were asked about: (a) the impact of the coaching process on their students, (b) the comfort level of the special education teachers with the coaching process, and (c) suggestions for improving the coaching procedures.

Qualitative research methodology was used to analyze the process of expert consultation and the process of change. Results indicated that: (a) the change process of the teachers was irregular; (b) the anxiety of the coachees was unavoidable even though the coaches focused on the student performance; (c) special and general educators have critical differences related to their teaching philosophies; (d) teachers in the regular classroom had many other concerns, in addition to concerns about teaching students with learning disabilities; (e) assessments of student learning shifted from global to more specific, and were based more on students' needs as the project progressed; and (f) more time had to be spent
with beginning teachers to assist them in translating what they had learned in college into daily instructional situations. Gersten, et al. (1995) concluded that the process of changing how general education teachers work with students with learning disabilities was slow. However, the general education teachers who participated in this coaching process ultimately agreed they could promote student learning through a variety of teaching methods learned as a result of the coaching process.

Another group of researchers, Kohler, Crilley, Shearer, and Good (1997) examined the effects of peer coaching on teacher and student outcomes. A multiple baseline single-subject design was employed to compare the effects of three experimental conditions on four regular elementary teachers' teaching and their students' outcomes. The study explored: (a) the effects of peer coaching on teachers' adjustment to an integrated instructional approach, (b) the range of processes that were associated with the new instructional practices (e.g., students' engagement with materials), and (c) the focus of teachers' interactions with a peer coach and their feelings about the instructional innovation. In this study, a newly retired teacher who had taught for 32 years served as the coach for the teachers. In addition to her teaching experience, she had three years of experience using the instructional coaching strategies.

The four teachers involved in this study were introduced to an integrated instructional approach (IIA) based on the direct instruction model of Rosenshine (1983). The integrated instructional approach allowed teachers blend activities to accomplish various teaching functions with the following steps: (a) reviewing
previously learned content briefly, (b) introducing new content in a 10-15 min minilesson, (c) guiding students' practice, and (d) providing feedback and scaffolds. The dependent variables in this study were: (a) organization of instructional activities (e.g., teacher-directed review/lesson, reciprocal learning strategy), (b) teachers' and children's involvement in instructional processes (e.g., academic subject matter, activity grouping structure), (c) teachers' coaching interactions (e.g., focus on collaboration), and (d) teachers' satisfaction and concerns with the integrated instructional approach. Each teacher engaged in seven collaboration sessions with the peer coach. The four teachers taught mini-lessons while the coach helped with monitoring the instructional activities. After each session, the teacher and the coach met for about 30-45 minutes to discuss improvement in a co-equal and collaborative manner.

According to Kohler, et al. (1997), all four teachers expanded their instructional procedures after collaborating with the coach. Teacher 1 implemented closure procedures on every session with a wider range of procedures whereas only two out of five sessions during the baseline period included closure. Teacher 2 increased emphasis on important cooperation skills while teaching students. Teacher 3 increased the number of closure procedures from 1.7 per session to 2.7. Teacher 4 implemented closure procedures throughout baseline sessions but increased the different types of procedures as a result of peer coaching. Teachers 1 and 2 demonstrated the shortest mini-lessons during the baseline. Teacher 1 increased from 2 minutes to 6 minutes, and Teacher 2 increased from 5 minutes to
11 minutes. The mini-lessons of Teacher 3 averaged 27 minutes in baseline and showed only a slight reduction during the next phases. Teacher 4 was more stable across the study phases.

A variety of teacher and student interactions were coded in alternating 10-second intervals during mini-lessons. The percentage of teacher's academic talk (e.g., academic prompt/question, feedback or general academic comment to students) ranged from 96% to 97% during mini-lessons across three experimental phases, from 18% to 26% during reciprocal learning as teachers were circulating, questioning and giving feedback, and 91% to 93% in closure activities as teachers were interacting with the students.

Kohler, et al. (1997) coded two dimensions of students' participation in the instructional activities. The mean percentage of student engagement ranged from 21% to 31% during the mini-lesson. However, student engagement during hands-on use of materials ranged from 59% to 71%. The mean percentage of active engagement decreased during closure procedures, ranging from 13% to 23%. During follow-up interviews, teachers expressed concern about the excessive time and effort spent on the integrated instructional approach.

The overall results of the study reported by Kohler, et al. (1997) were: (a) The four teachers made few teaching modifications during the baseline period, (b) Positive changes occurred during peer coaching (e.g., procedural refinements that fit their areas of concentration), (c) Instructional activities associated with a variety of different teacher and student processes, and (d) The four teachers disclosed different concern and satisfaction with the innovation.
Summary of Inservice Peer Coaching Studies

All seven inservice peer coaching studies indicated that peer coaching is an effective way of assisting teachers in the mastery of newly learned skills. Moreover, peer coaching strategies helped teachers transfer what they learned during inservices to classroom practice. Although there were variations among these studies with regard to how many coaching sessions were used and how long the coaching procedures were systematically implemented, there was much similarity with regard to the specific coaching process. The coaching process typically involved a pre-observation conference to identify what and how observations would take place. Then teachers took turns observing one another. These observations were designed to be supportive rather than evaluative. After the observations, follow-up conferences occurred. The follow-up conferences provided an opportunity for teachers to self-evaluate, provide feedback to their peers, and make plans for future growth and development.

Another common component found among these studies was the emphasis on peer coaching training. The amount of training and the content of the training varied. Both experienced and inexperienced coaches found to be effective in working with their peers.

The peer coaching process found to be effective with elementary, middle, and high school teachers across grade levels and content areas. Specifically, it was found helpful to special education, general education, bilingual education, and English as a second language teachers. The teachers in these studies found that peer coaching helped develop close working relationships with other teachers in a short amount of time. They experienced much
professional satisfaction while involved in peer coaching. Finally, it was noted that peer coaching ultimately benefited the school-aged students. As teachers became more effective, the students' learning increased (Kurth, 1985; Kohler, Crilley, Shearer, & Good, 1997).

**Preservice Peer Coaching Studies**

In 1983, Englert and Sugai examined the effectiveness of two methods of peer coaching among preservice teachers. The study involved 20 special education practicum students studying to become teachers of students with learning and behavior disorders. The purpose of the study was to compare the effectiveness of two observation and feedback conditions: peer observation with a structured observation system and peer observation with an unstructured observation system. Twelve students in the experimental group observed their peers teaching five lessons using a structured observation system that indicated the specific skills to be observed. The remaining eight students constituted the control group and used their own unstructured methods for recording the teaching behaviors of their peers. Both groups received identical instruction in behavior management and direct instruction skills as part of their practicum experience. Both groups of peer coaches provided verbal and written feedback immediately after each observed lesson. Observation data also were shared immediately following the observed lessons.

A two-factor analysis of variance (ANOVA) for inappropriate behavior and lesson noise showed no significant main effects or interactions between the structured and the unstructured groups. The two groups' instructional skills were compared for the trainees'
capability of maintaining a high degree of pupil accuracy during direct instruction. The results of ANOVA analysis showed that the group using a structured system demonstrated a higher degree of pupil accuracy than the control group who used an unstructured system (81% vs 73%). An analysis of the teachers’ feedback strategies (e.g., prompts, reinforcement, telling correct answer) showed that the experimental group used more effective feedback strategies than the control group. However, the experimental group used the strategy of telling the correct answer significantly fewer times than the control group. Control teacher trainees prompted correct responses more often than experimental teacher trainees. There was a main effect for time, \( F(1, 36) = 6.72, p < .05 \), indicating both groups used fewer prompts for correct responses at the end of the study. According to Englert and Sugai (1983), the result suggested that group differences remained relatively stable, with both groups decreasing their need for prompting.

Wynn (1988) investigated how student teachers transfer their training to the classroom. The purpose of the study was to determine whether student teachers would transfer training using the Wynn Experimental Model more successfully than when using a traditional seminar approach. The model was developed during the study.

Subjects were elementary student teachers at Florida Southern College in Lakeland who participated in ten 3-hour weekly seminars in 1986. All the student teachers (number not indicated in the study) were divided into experimental and control groups. The first two class sessions for the experimental group focused on self-identified teaching concerns and training in peer coaching using
videotapes of classroom situations. The Wynn Experimental Model that was introduced to the experimental group included the following components: (a) self-identified teaching concerns from 19 choices; (b) peer coaching within a small peer group; (c) self-analysis through videotaping, feedback and coaching of peers; (d) goal setting through group interaction with college supervisor, master teacher and peers; and (e) reflection through journal writing.

Peer coaching groups were set up according to grade level placement. The peer coaching cycle included: (a) a pre-observation conference in which student teachers showed their peer coaching group tapes of themselves teaching reading and then shared self-perceived instructional needs, (b) the peer coaching group collected data while watching the tape, and (c) a post-observation conference was held with the student teacher and their peer coaching group. Two strengths and two suggestions for improvement were identified during the post-conference. Each student teacher coached 12 or more times and received coaching four times with videotapes. The control group received traditional seminar lectures in which the instructor predetermined their instructional needs.

Evaluation of teaching performance of the experimental and comparison groups was measured by pretest and posttest videotape scores. Videotapes were scored by two independent observers using the Purdom-Wynn Observation Instrument. This instrument measured four domains: (a) Lesson Introduction, (b) Content Presentation, (c) Follow-up with Feedback, and (d) Management of Student Conduct. Behavioral and performance criteria were defined for each ranking (from 1 to 5). Data were analyzed using an analysis of variance for
repeated measures. According to Wynn (1988), results indicated that student teachers in the experimental group demonstrated significantly higher scores on overall teaching performance.

Qualitative evaluation for the seminars was conducted with open-ended questionnaires. The questionnaires were answered anonymously. Some of the positive comments from the experimental groups were: getting new ideas by watching the videos, witnessing what works, and helping to see one's own mistakes and share peers' experiences.

Wynn (1988) drew two conclusions from the study: (a) student teachers needed assistance in the transfer of instructional skills to the classroom, and (b) the Wynn Experimental Model was more effective for transferring teacher skills and developing effective teaching behaviors than the traditional seminar. Student teachers expressed that the videotaped coaching process had been one of the most beneficial aspects in their teaching preparation. They thought that the program would be beneficial to all other Florida Southern College interns. Wynn concluded that training for transfer of skills to the classroom was important. These findings agreed with Showers (1984) findings that indicated coached teachers demonstrated a higher rate of transfer than uncoached teachers. The author did not report the number of subjects in the study, therefore, generalization effects to other preservice teachers are limited.

Peterson and Hudson (1989) investigated the effectiveness of preservice peer coaching for increasing effective teaching behaviors (e.g., conducts beginning or ending review, stops misconduct), and decreasing ineffective teaching behaviors (e.g., allows talk/activity
unrelated to subject, does not organize materials). A multiple baseline single-subject design was employed. The Florida Performance Measurement System (Florida Coalition for the Development of a Performance Measurement System, 1983) was used to identify the targeted teaching behaviors. Three preservice graduate students participated in the study. These students were learning to teach strategies from the University of Kansas Institute for Research in Learning Disabilities curriculum. Each of the preservice students had to teach one strategy to a group of 3 to 5 adolescents.

The university practicum supervisor did not provide feedback to the students during the baseline phase. During the intervention phase, the university supervisor and the preservice students participated in coaching sessions. They planned together to improve and increase effective teaching behaviors and to decrease ineffective teaching behaviors. After this initial coaching session with the university supervisor, the directing teacher took over the coaching responsibility. Directing teachers observed and provided the practicum students with feedback focusing on the previously identified goals. The directing teacher and the students set new goals when the former goals were met. Weekly support group meetings were held. The university supervisor, directing teachers, and preservice students attended these meetings. The practicum students shared their experiences and identified problem areas. The group worked together to identify possible solutions.

Results indicated all three student teachers increased their effective teaching behaviors and decreased their ineffective
teaching behaviors. The researchers suggested that the shared supervision efforts were very supportive to the preservice teachers.

A study by Miller, Harris, and Watanabe (1991) examined the effectiveness of implementing two coaching sessions in 5 weeks for increasing effective teacher behaviors and decreasing ineffective teaching behaviors among preservice practicum students. A multiple baseline design across subjects was implemented. Three groups of 2 practicum teachers were assigned to team teach one learning strategy from the University of Kansas Institute for Research in Learning Disabilities curriculum. The strategies were taught to upper elementary through high school students. During the 15-minute baseline observations for each teacher, no feedback was provided. During the intervention phase of the study, the university supervisor observed each practicum teacher using the Florida Performance Measurement System (Florida Coalition for the Development of a Performance Measurement System, 1983). This instrument helped identify effective and ineffective teaching behaviors that were used during the lessons.

Following this data collection process each team participated in two structured coaching sessions with the university supervisor. The following procedures were used during the coaching sessions: (a) teachers discussed strengths and weaknesses of the lesson; (b) teachers identified focus of change for future lessons; (c) the university supervisor shared observation data with both teachers; (d) teachers used observation data to target behaviors to be increased, decreased, or maintained in future lessons (behaviors were recorded on peer coaching forms); (e) teachers discussed
coaching strategies; and (f) teachers shared copies of one another's peer coaching forms. The behaviors that most practicum teachers wanted to increase were giving specific academic praise and asking students higher-level thinking questions. The behavior that most teachers wanted to decrease was giving non-specific praise.

The data collected in this study according to Miller, et al. (1991) indicated that all 6 teachers increased their effective teaching behaviors while simultaneously decreasing their ineffective teaching behaviors significantly. Results also suggested that the two coaching sessions improved teaching performance in a 5-week period. There was some inconsistency in teachers' performance and the researchers thought this was related to differences among the lesson content. Three months after the study ended, the university supervisor conducted follow-up observations of the practicum students who were now teaching in their own classrooms. Data from these observations revealed that the teachers maintained their effective teaching behaviors.

Morgan, Gustafson, Hudson, and Salzburg (1992) used a multiple baseline across subjects design to examine the outcomes of peer coaching on acquisition and generalization of effective teaching behaviors of lower-performing, preservice teachers. Participants in the study were 5 preservice practicum teachers with an overall Grade Point Average (GPA) lower than 3.0 who exhibited inefficient teaching behaviors during a baseline measurement. Three students who demonstrated excellent performance during their practicum experiences, with an average GPA of 3.36, were selected to be peer
coaches. Four above-average practicum students (GPAs above 3.0) who received no coaching served as a comparison group.

The coaches received 15 hours of training in collecting data and coaching criteria. They paired up with the 5 practicum students. The coaching procedures were: (a) record practicum teachers' effective and ineffective teaching behaviors during reading sessions, (b) provide immediate feedback on teaching behaviors during observation sessions, (c) provide written and verbal feedback immediately after each session, and (d) determine progress toward mastery. The unique aspect of this coaching process was that peer coaches provided immediate feedback on target teaching behaviors during the observation. Whenever the coaches observed effective behaviors they gave the student teachers a signal such as raising a hand or giving verbal cues. Whenever the coaches observed ineffective behaviors, they would interrupt and give the practicum student corrective verbal and written feedback. Data were collected on the number of effective and ineffective teaching behaviors exhibited during 15-minute individualized reading lessons. These observations occurred two to three times a week during 15-minute individualized reading lessons.

The effects of coaching were measured by examining the mean frequencies of teaching behaviors observed in the 15-minute reading sessions (29 sessions for coached trainees and 32 sessions for comparison trainees). All 5 coached practicum students increased their mean effective teaching behaviors (from 25.1 to 43.9) and decreased their mean ineffective teaching behaviors (from 29.7 to 8.4). The comparison practicum teachers (control group) increased in
mean effective teaching behaviors (from 46.9 to 48.8) and decreased in mean ineffective behaviors (from 13.4 to 8.1). Morgan, et al. (1992) also reported that the preservice teachers’ improved teaching skills generalized from reading to math instruction. This study demonstrated results that were similar to those found in Englert and Sugai (1983), Peterson and Hudson (1989), and Miller, Harris and Walanabe (1991).

Marchand-Martella and Lignugaris/Kraft (1992) examined the performance of preservice teachers in a highly structured 10-week Direct Instruction practicum supervised either by student teachers or by university personnel. Four student teachers and two university personnel were supervisors. All of the practicum trainees were placed in a resource room in an elementary, middle, or high school. The trainees were taught small group instructional procedures. Fifteen hours were spent on training in data collection and coaching.

Student teachers and university supervisors used three forms to record the performance of the trainees and appropriate feedback for them. One form was used for grading purposes. Student teachers were trained in four areas. Specifically, they focused on: (a) the theory of Direct Instruction, scoring and data collection procedures for observation, grading and feedback; (b) Direct Instruction teaching skills from two videotapes; (c) tallying data; and (d) assessment and scoring of teaching interactions from a videotape.

During the coaching process, the supervisors: (a) observed and collected data two to three times each week, (b) provided immediate feedback on target teaching behaviors during lesson, (c) provided summary feedback verbally and in written form, and (d) determined
progress of mastery. Supervisors observed each trainee formally four times during the 10-week quarter. These observations were used in determining the practicum students' grades in the course. These formal observations included collecting data for a minimum of 6 minutes, completing a grade form, and completing a written feedback form. Participants arranged informal observations when no formal observation was taking place. Written feedback also was provided during informal observation. Formal data collection during informal observation may or may not have taken place. Student teacher trainees made arrangements with their cooperating teachers to include one observation and feedback session each week. They did the same with the university personnel.

Descriptive analysis revealed that the trainees exhibited improved performance on the targeted teaching behaviors (presentation, accuracy, signal error corrections, response error corrections, praise statement, and pacing) across four formal observations. The mean percentage of correct presentation improved by 11.6% for trainees supervised by student teachers, and by 1.1% for those supervised by university personnel. Accuracy of pupil responses among trainees, who were supervised by student teachers, fluctuated between 72.2% and 77.6% across observations. Therefore, the researchers were unable to report an improvement percentage over time. Trainees who were supervised by university personnel improved by 3.4%. Correct signal error corrections improved by 6.4% for those participants who were supervised by student teachers from the first to the fourth formal observations, and by 27% for those supervised by university personnel. Those who were
supervised by student teachers improved their error correction rate by 10%; while those who were supervised by university personnel improved by 11.3%. The mean percentage of correct praise statements remained 100% for all trainees, and pacing remained stable for both groups.

In addition, Marchand-Martella and Lignugaris/Kraft (1992) reported that the trainees found it difficult to meet the accuracy criterion (85% correct). Only 16% of the trainees supervised by student teachers and 26% of the trainees supervised by the university personnel met the targeted criterion across formal observations. On presentations, an average of 97% and 89% of the trainees supervised by student teachers and university personnel respectively met the criterion (90% correct). For signal error correction, an average of 73% and 52% of the trainees supervised by student teachers and university personnel respectively met the criterion (85% correct). For response error corrections, an average of 74% and 64% of the trainees supervised by student teachers and university personnel respectively met the criterion (85% correct). As for instructional pacing, only 71% of the trainees supervised by student teachers and 92% of the trainees supervised by university personnel met the criterion (9 per minute). All trainees supervised by student teachers revealed they received adequate amounts of feedback after each observation while 71% of the trainees supervised by university personnel reported the same.

The only contrasted teaching behavior assessed between the student teacher and the university personnel was instructional pacing. The overall effect of student teachers coaching their peers
was positive. Marchand-Martella and Lignugaris/Kraft (1992) suggested that student teacher supervisors allowed more teaching observations in preservice teacher education programs while maintaining the quality of teaching.

Lignugaris/Kraft and Marchand-Martella (1993) evaluated an experimental program involving 8 special education student teachers supervising 19 special education preservice teachers (elementary, middle and high school) in a Direct Instruction practicum over three academic quarters. These student teachers all received As for their superior teaching skills in their practicum teaching. Supervision responsibilities were part of the student teaching requirements for seven of these eight student teachers. Two of them supervised during two academic quarters and six of them during one quarter (a total of three academic quarters) with practicum teachers randomly assigned to them.

The supervising student teachers (coaches) received training from the university practicum coordinator. During training, the student teachers: (a) reviewed the components of Direct Instruction and learned about the scoring procedures, data collection instruments, grading form, and written feedback form; (b) practiced critiquing and giving feedback related to Direct Instruction techniques viewed on videotapes; (c) practiced data collecting and scoring; and (d) practiced assessing teaching interactions using a videotape. The coaches observed and graded each practicum teacher four times during the 10-week quarter. Data on instructional interactions were recorded for at least 3-minutes for two observation periods. The second observation period began in the
middle of the lesson. A feedback form was completed on effective and ineffective teaching behaviors in addition to assigning a grade. The targeted behaviors during observation were: (a) organization of instructional curricula; and (b) teachers' instructional skills with teaching practice. The coaches had to provide rationales for recommendations made to address ineffective teaching behavior. Informal nongraded observations were done in between formal observations.

Evaluation of the peer supervision program involved the practicum teachers' mastery of their targeted teaching skills and their supervisors' evaluations. A Repeated Measures Analysis of Variance was conducted including each instructional interaction skill. Lignugaris/Kraft and Marchand-Martella (1993) reported that the practicum teachers increased significantly in their effective teaching behaviors. On the first formal observation, 74% of the trainees met the criterion on presentation skill. All the trainees reached criterion on the third and fourth formal observations. Signal error corrections improved from 42% to 78%, and response error corrections improved from 32% to 78% by the fourth formal observation. Between 58% and 78% of the trainees met the accuracy criterion of 85% across four formal observations. The practicum teachers were pleased with the coaching, particularly with regard to communication between them. They reported receiving abundant and useful verbal and written feedback from their coaches. Lignugaris/Kraft and Marchand-Martella further confirmed that student teacher coaches could provide more frequent teaching
observations to the preservice trainees than university personnel and still maintain the quality of supervision.

Neubert and McAllister (1993) conducted a study to determine whether preservice teachers: (a) see the value in peer coaching and what they perceive the value to be, (b) perceive any problems in peer coaching, and (c) believe coaching processes lead to more reflective teaching.

For two and a half years, Neubert and McAllister (1993) studied the effects of peer coaching with groups of elementary education students in a junior level curriculum and methods course. These students learned different teaching strategies through the three phases of Joyce and Showers' (1982) model. One day a week the students engaged in classroom observation, assisting and teaching, and practicing peer coaching. At the beginning of the course, students chose a partner, learned non-directive coaching techniques and practiced these effective procedures. The Lyon’s Praise-Question-Polish (PQP) conferencing style was used (as cited in Joyce & Showers, 82): (a) The PRAISE part focused on “What went well and why it was effective”; (b) the QUESTION part focused on clarifying, eliciting and exploring alternatives; and (c) the POLISH part focused on suggestions for improvement. The students observed a videotaped demonstration lesson and then used the PQP format.

Each student taught two lessons and observed/coached two lessons during the semester. Conferences were audiotaped and transcribed for a final report. The coaching sessions involved: (a) planning of lesson and developing objectives for observation with the coach, (b) implementing the lesson with the coach in class, and
(c) conducting a follow-up PQP conference. Students wrote a summary regarding their learning experience after each lesson.

Results of the study showed that 93% of the students (N=135) either loved (41%) or liked very much (52%) the peer coaching while the remaining 7% remained neutral. Problems with peer coaching were also reported. Included among these were: (a) difficulty giving “polish” suggestions for fear of offending their peers, (b) difficulty thinking of appropriate “polish” suggestions, and (c) difficulty in identifying strategies for lesson planning for some students. The audiotapes of coaching revealed that peer coaching helped students implement strategies they learned from the college course. Neubert and McAllister (1993) concluded that the coaching process was beneficial to the education students in both the affective and cognitive domains.

Pierce and Miller (1994) conducted a research study designed to compare the effects of traditional supervision and peer coaching procedures that were used to enhance practicum students’ effective teaching behaviors. The participants were 29 preservice students enrolled in a practicum course on mental retardation. The preservice students spent 4 hours a week in public school self-contained classrooms for students with mental retardation. Fourteen practicum students were in the experimental group and fifteen practicum students were in the control group. Practicum students in both groups had to teach two 20-minute lessons and be observed. The practicum students took turns coaching one another on lessons relating to academic and prevocational skills. Coaches received 1.5 hours training on the coaching and data collection processes. The
same university supervisor observed both groups for baseline data. During the two 20-minute lessons, the peer coaches observed the experimental group while the university supervisor observed the control group. Both groups used the Florida Performance Measurement System (Florida Coalition for the Development of a Performance Measurement System, 1983) for identifying effective and ineffective teaching behaviors.

Each practicum student coached their peers twice and were coached by their peers twice during the 12-week practicum. The coaching process involved three steps: (a) coaching conference was held to target behaviors to observe, (b) coach observed and collected data, and (c) follow-up conference was held. Three times during the semester, two or three coaching teams met together for support and to gain additional ideas for improving their teaching. The experimental group and the control group both participated in a weekly 50-minute seminar. Students in the experimental group spent some time in a lecture format and the rest of the time, approximately 15 minutes, in conferences with the peer coach. Conference time focused on targeting behaviors for improvement and identifying strategies for mutual support. The control group spent the whole seminar time in lecture format.

Data on effective and ineffective teaching behaviors were collected and analyzed. The researchers used a 2x2 mixed design (treatment and performance over time), and a multivariate analysis of variance (MANOVA) procedure to test the effect of the independent variable (peer coaching). For the experimental group, practicum students increased their mean effective teaching
behaviors (from 27.7 to 45.7) and decreased their mean ineffective teaching behaviors (from 11.4 to 7.36). For the control group, practicum students increased their mean effective teaching behaviors (from 25.2 to 45.2) and decreased their mean ineffective teaching behaviors (from 10.0 to 7.93). There were no significant differences between the two groups. Peer coaching appeared to be just as effective as the traditional supervision for these practicum teachers.

Morgan, Menlove, Salzberg and Hudson (1994) explored the effects of a peer coaching intervention for five low-performing preservice teachers whose grade point average (GPA) was 2.86. Four participants previously had a 10-week orientation practicum in school settings while one did not. Coaches for these 5 preservice teachers were 3 undergraduate students with an overall GPA of 3.56. The coaches received paid tuition for participating. Ten of the pupils were classified with mild mental retardation, 9 with learning disability, and 2 with behavior disorder. Reading and spelling achievement was below grade level for all of them. The coaches were trained by the university supervisor for 12 to 15 hours in the data collection and coaching processes. Coaching was conducted two times per week with the following procedures: (a) coach and trainee evaluated videotapes of the trainee's teaching; (b) coach assisted trainee in self-evaluating his or her performance from the tape; and (c) coach and trainee compared evaluations of performance, and established objectives for improvement.

A multiple baseline design across the 5 preservice teachers was employed to measure the effective instructional trials across
the trainees. After a baseline phase, coaching started concurrently for two trainees. When the trainees demonstrated increased performance for two consecutive sessions, coaching started for the next two trainees, and then the fifth trainee. The peer coaching effects on trainee performance focused on: (a) the percentage of effective teaching behaviors in reading sessions, (b) probes of effective teaching behaviors in spelling sessions for 2 trainees, (c) the rate of praise statements, (d) the rate of pupil responses, and (e) the number of lessons mastered by groups of pupils.

Effects of coaching on praise statements and rate of pupil responses were analyzed (Morgan, el al., 1994). The mean baseline rates and the mean rates in the last five sessions were compared. Results indicated that the peer coaching strategy was effective. It increased effective teaching behaviors during the reading lessons of 5 low-performing preservice trainees who did not acquire these behaviors previously. There was no significant difference between groups. Both did equally well in increasing effective behaviors and decreasing ineffective behaviors. The improved teaching behaviors were generalized to another content area (i.e., spelling mastery). However, anecdotal observations suggested these trainees acquired the training behaviors at different rates. Also, concern was expressed about the high cost of using video-taping for peer coaching.

Paulsen (1997) compared the effectiveness of five types of field-based supervision: (a) traditional university supervision, (b) cooperating teacher supervision, (c) peer coaching, (d) university supervision coupled with peer coaching, and (e) cooperating teacher
supervision coupled with peer coaching. Fifty-eight practicum teachers enrolled in the Resource Room Practicum Course participated in the study. Data collectors were two special education graduate students and the field experience coordinator for the Department of Special Education. Each practicum teacher was observed for 20-minutes for pre- and post-test data. Peer coaches were preservice practicum teachers. They received training in coaching and criteria for recording effective and ineffective behaviors using a modified Florida Performance Measurement System (Florida Coalition for the Development of a Performance Measurement System, 1983).

In the study, the coaches observed the practicum teachers during four 20-minute sessions in the peer coaching group. If the students were assigned to the university supervision coupled with peer coaching or the cooperating teacher supervision coupled with peer coaching, they observed their peers twice during the semester. Students who either had peer coaching paired with university supervision, or with cooperating teacher supervision, observed their peers twice for the semester. Practicum teachers in the university supervision and cooperating teacher supervision groups were observed during four 20-minute sessions. All practicum teachers received verbal and written feedback after each observation. Videotaping of lessons was used to check for reliability of data collection.

All five models were compared. There was no significant difference found between them on the number of effective teaching behaviors exhibited. According to Paulsen (1997), significant
differences were found within three of the methods. The groups engaged in peer coaching, university supervision integrated with peer coaching and cooperating teacher supervision all increased significantly in their effective teaching behaviors. Regarding the ineffective teaching behaviors exhibited by the practicum teachers, no significant differences were found. Overall, all four groups demonstrated a decrease in ineffective teaching behavior. There was no significant difference between groups for satisfaction with methods of supervision. However, survey results indicated that the practicum teachers were more anxious when observed by the university supervisor than when they were observed by their peers. The practicum teachers, in this study, did not have a supervision preference.

Long (1997) distinguished clinical supervision from peer coaching and developed a peer-group clinical supervision model for secondary practicum mathematics teachers. According to Long, “coaching emphasizes the mastery and transfer for teaching skills and behaviors, while supervision aims for the analysis of teaching within the real-world setting of classroom experiences” (p. 17). The purpose of Long’s study was to assess the level and nature of reflective thought of the preservice teachers, aiming to empower pedagogical content knowledge and reasoning.

Long (1997) was interested in investigating the nature of the students’ discourse during lesson planning sessions, and hoped to determine whether a model could be used to provide a context in which the practicum teachers’ reflections in the lesson analysis sessions could extend beyond a search for simple techniques and
methods and deal instead with higher-level analysis. The procedures of the peer-group clinical supervision model were as follows: (a) The practicum teacher explained the math concepts and the instructional goals; (b) The peer-group planned the lessons using the practicum teacher's instructional goals and the supervision program goal (i.e., promoting student interest and involvement and valuing assessment); (c) The lesson was videotaped when the practicum teacher taught the lesson; (d) The practicum teacher reflected on his or her own videotaped lesson at home keeping in mind written feedback, from the cooperating teacher, written feedback from the students, and input from the peer partner; and (e) The peer-group and the supervisor met to discuss the taped lessons in a lesson analysis session. Content of these sessions emphasized pedagogical issues and how to effectively teach students mathematics concepts.

The program consisted of a 5-week Orientation Phase and a 4-week Program Phase. The Orientation Phase focused on practicum teachers: (a) interviewing at least one model teacher due to their unique style, methods, lesson development, or techniques; (b) viewing a model mathematics lesson from videotape; (c) discussing six recommendations for mathematics teaching that lead to student interest, involvement and understanding; (d) practicing data collection procedures; and (e) developing feedback questionnaires. During this phase, the cooperating teachers were taught how to complete a feedback questionnaire after observing the practicum teachers. Students in the math class learned how to fill in a brief feedback questionnaire related to these lessons.
The Program Phase consisted of pre-teaching Lesson Planning Sessions and post-teaching Lesson Analysis Sessions. Data were collected and transcribed from audiotapes of lesson planning and lesson analysis sessions. The practicum teachers tried to reach a deeper understanding of the mathematics concepts and to solve the problems they encountered during teaching. The practicum teachers also spent most of their time trying to meet students' learning needs instead of just focusing on teaching techniques and methods.

Analysis of transcripts of the qualitative data revealed that the practicum teachers demonstrated more competence in inquiry, reflection, planning, and collaboration in this model than they did in traditional supervision models. They were very supportive of one another. As the study progressed, the practicum teachers planned their lessons thinking more about students' needs.

Long (1997) found that the practicum experience of secondary mathematics teachers could be restructured. The important findings from this study were that: (a) videotaping of the lessons instead of having a supervisor physically present was well received by the practicum teachers, (b) the practicum teachers and their cooperating teachers showed a clear preference for peer-group clinical supervision, (c) more detailed instruction in lesson plan design and discovery learning methodology were required, and (d) more professional discussion in the lesson analysis sessions emerged as time progressed. Long emphasized that meaningful teaching is interactive in nature and attempts should be made throughout the lesson to assess student understanding. However, it appeared that
the practicum teachers failed to address the assessment component of a lesson.

Hasbrouck (1997) investigated the effect of mediated peer coaching for improving instructional skills of preservice teachers. Twenty-two undergraduate special education students enrolled in a 4-week summer practicum participated in this study. Other participants were 7 experienced educators who served as the “mediators” in the peer coaching process. Two hundred and ninety-six children attended a 1-month skills remediation program (96 at a middle school and 200 at an elementary school). The students in the study were low-performing or had learning disabilities. The 22 practicum teachers (PTs) assisted and cotaught with 15 classroom teachers.

The Scale for Coaching Effective Instruction (SCIE) was developed to guide the coaching process observations and feedback. The PTs received 4 hours of training in using the SCIE with a videotaped lesson of a PT. Training covered taking anecdotal notes during observation, coding data, and providing feedback for improvement. The seven mediators received 5 hours of similar training. They also received training on goal setting. Teams of 2 PTs were randomly assigned to coach each other. The mediators were assigned to coach two or three pairs of PTs.

The mediators set up the schedule for peer coaching. Each PT taught three 20-minute lessons and were observed by 1 mediator and his/her PT partner. The mediator and PT observer completed a SCIE consensus form. The observed PT set 1 to 3 goals based on self-evaluation and feedback from the mediator and the PT coach. A
coach/observer observed the teacher's behaviors (e.g., responses to students' performance, use of corrections) and students' reactions (e.g., attentiveness, correct or incorrect responses). Comprehensive field notes were coded on the SCIE protocol. In consensus sessions after observations, mediators showed the PTs how to identify high-, moderate-, or low-quality performance by using examples from the observation.

Time-series data were collected to assess the PTs' teaching skills. Data were collected based on: (a) scores from 132 SCIE protocols completed by consulting teachers/mediators and PTs in concurrent observations, (b) scores from SCIE consensus forms, (c) daily logs of PTs, (d) interviews and questionnaires, and (e) field notes taken by the researcher. Coding agreement between the PTs and the mediators increased across three observations. Hasbrouck (1997) found that 18 of 22 PTs improved their instructional skills over the four weeks. The four teachers covered nine procedural components during peer coaching. Teachers' collegial exchanges promoted positive changes (e.g., instructional improvement) in the classroom. The researchers noted, however, that the improvement in SCIE scores might not relate only to the effects of peer coaching. Other factors might have influenced the outcomes of the study such as: (a) different personalities and backgrounds of the participants, (b) levels of their commitment to the practicum, and (c) different experiences within the practicum situation.
Summary of Preservice Peer Coaching

The combined findings from these preservice peer coaching studies suggest that preservice teachers need assistance in the transfer of instructional skills to the classroom and that peers can play a significant role in providing that assistance. Peer coaching processes that employed supportive observations with well-defined observation systems resulted in improved performance among preservice teachers and their students. Preservice students who use peer coaching for feedback appear to do just as well as preservice students who receive feedback from university supervisors. Moreover, peer coaching is an effective approach to use with lower-performing preservice teachers who need additional support. The critical components involved in successful peer coaching programs included training for the peer coaches, clearly established goals, structured observation systems, and a supportive tone throughout the coaching process (i.e., pre-observation conference, observation, post-observation conference).

Alternative Certification Programs

Since no studies were located that compared traditional preservice students to non-traditional undergraduate cohort students (as defined in this dissertation study), the alternative certification literature was reviewed. This body of literature seemed to be the closest match to the current study. The movement toward Alternative Certification (AC) for teachers in the 1980s started with the long-term shortage of math and science teachers (Hawley, 1990). Certification through alternative routes was based
on programs of study and experience defined by states with or without involving institutions of higher education.

Reviewing literature from 1980 through 1990, Hawley (1990) reported that many different Alternative Certification (AC) models are being used in the United States. Hawley also stressed that the number of relevant empirical studies were few and not many issues were addressed. Most of these studies were weak in methodology (Hawley, 1990; Sindelar & Marks, 1993). Specifically, problems found in the AC studies were: (a) lack of comparisons between AC teachers and traditionally certified (TC) teachers from the same district, (b) absence of systematic assessment of teacher performance, and (c) small sample sizes. Hawley (1990) indicated that conclusions from AC research were limited because of the many weaknesses in these studies. He also stressed that the weakness of research on AC had hindered the development of more effective teacher preparation programs for non-traditional teachers. Other researchers (Lilly, 1992; Miller, Mckenna & McKenna, 1998; Sindelar & Marks, 1993) agreed with Hawley and reported there is much diversity among AC programs. The large amount of divergence among the programs further complicates investigations related to AC. Consequently, very few substantive studies on the effectiveness of AC programs have been conducted.

Sindelar and Marks (1993) reviewed 19 studies of alternative route programs and concluded that they were not inferior to traditional certification programs. Most of the alternative certification programs in their review prepared teachers to teach in subject areas at the secondary level. Similar to Hawley's (1990)
review, these researchers noted methodological weaknesses in AC research.

Although many educators support Alternative Certification programs, some criticisms have emerged. Some educators believe these programs move away from the professional education knowledge base and therefore weaken the teaching profession (Culver, Eicher, & Sacks, 1986; Sindelar & Marks, 1993). Culver, et al. identified opposition from both teacher preparation institutions and teacher unions.

Buck, Polloway, and Robb (1995) surveyed all states concerning the use of Alternative Certification (AC) programs to train teachers of students with disabilities. A total of 50 states and the District of Columbia responded with a 100% return rate. The respondents were the Directors of Teacher Education or their designees in each state and the District of Columbia. The survey was structured under the auspices of the Standards and Ethics Committee of the Council for Learning Disabilities. Over 62% of those surveyed indicated that AC programs in their states focused on the needs of students with disabilities. Over 76% indicated the AC programs concentrated on early childhood, middle, or secondary education. Twenty-four states offered certification programs for special education teachers in general and 24 states offered programs for learning disabilities teachers in particular. Buck, et al. projected that 85% of states would have AC programs within the subsequent five years.
Comparison Studies Involving Traditional and Alternative Licensure Preservice Students

Hawk and Schmidt (1989) examined the differences between two groups of teachers on their National Teacher Exam results and classroom performance. Data were collected from 53 traditionally prepared teachers (TPT) and 16 other participants who were prepared through a lateral entry program (LEP). The LEP was an alternative teaching certification program. The components of training for the LEP candidates were: (a) six weeks in basic teaching skills, (b) one year teaching in a rural school with weekly seminars, and (c) one week of combined activities.

The LEP participants were evaluated according to: (a) the National Teachers Examination (NTE) Math and/or Biology Area Exams, (b) the NTE Professional Knowledge Exam, and (c) the Teacher Performance Appraisal Instrument (TPAI). The TPAI, a validated research-based instrument developed by White, Stuck, Wyne, and Coop as cited in Hawk and Schmidt (1989) was used to assess 28 observable teaching practices within public school classrooms over an entire school year. The NTE content examinations were administered before or during the first semester of the Lateral Entry Program. The Professional Knowledge Exam was administered during the summer school session after the school year.

NTE scores were gathered for 18 traditionally-prepared teachers (7 math and 11 science) who graduated the same year in the same university as the teachers in the lateral entry program. Summative TPAI ratings were obtained for 53 math and science teachers who had completed their first year of teaching (35 of them...
from other institutions). All LEP participants took the NTE Area Exam. The mean score for 11 LEP participants who took the NTE Area Exam in biology and general science was 677.5 while the mean area exam score for all science students at the university for one year was 664.44. A t-test showed no statistically significant difference between the two groups (t = 1.36, p < .09). The mean score of 8 LEP participants who took the NTE Area Exam in mathematics was 586.25 while the mean score for the TPT participants was 585.11. Results showed no statistically significant difference between the two groups (t = .029, p < .05). The mean score for the LEP participants on Core Battery III, Professional Knowledge, was 666.38 while the mean score for all math and science students at the University was 664.31. Again, no statistically significant difference was found (t = .404, p < .34).

All 16 LEP and 53 TPT participants were evaluated during the school year by school system personnel with the Teacher Performance Appraisal Instrument (TPAI). The TPAI measured five major function areas of teaching: (a) Management of Time, (b) Management of Behavior, (c) Instructional Presentation, (d) Instructional Monitoring, and (e) Instructional Feedback. The local school system reported a summative set of ratings for each participant. The range of percentage differences between LEP and TPT participants in the Below Standard column was 0% to 5.7%. The areas of Management of Time, Management of Students, and Instructional Feedback indicated no percentage differences. There were 2.2% fewer TPT than LEP participants Below Standard in the area of Instructional Presentation. There were no LEP participants
Below Standard in the area of Instructional Monitoring. However, 5.7% of the TPT participants were in the Below Standard category. The percentage range of differences between the LEP and TPT participants in the Above Standard category was 10.5% to 28.2% in the areas of Management of Time, Management of Students, Instructional Presentation, and Instructional Feedback. The greatest percentage difference was found in the area of Instructional Monitoring: 23% more LEP than TPT participants obtained Above Standard ratings.

According to Hawk and Schmidt (1989), the evaluations of the LEP teachers showed they were competent in the classrooms and were as successful on NTE exams as the traditionally prepared teachers. Although the traditionally prepared teachers demonstrated more Above Standard ratings, the LEP teachers were competent in spite of being prepared in a short time. However, Hawk and Schmidt (1989) identified some limitations of the study: (a) the additional 35 first-year math and science teachers were not prepared by the same institution, (b) the LEP groups in the study were limited to teachers of math and science, and (c) the TPAI was completed by several observers and interrater reliability could not be established because of time and distance.

The State Department of Georgia funded an independent research project designed to compare the participants in an Alternative Preparation Institution program with graduates of traditional teacher education programs in Georgia. Guyton, Fox, and Sisk (1991) studied the attitudes, performance, and experiences of the two groups during the first year of teaching. Participants of the
Alternative Certification (AC) program: (a) held a bachelor's degree in special subject areas with a minimum GPA of 2.5, (b) had completed a course in human growth and development, (c) had completed one year of supervised internship, and (d) had passed the Teacher Certification Test (TCT) and other required course work.

The subjects of the research were 23 beginning teachers who had completed the 1988-89 Alternative Preparation Institute program, and 26 certified beginning teachers who had traditional teacher education. The Educational Attitudes Inventory (EAI) developed by Bunting as cited in Guyton, et al. (1991) was made up of two factor-analytically derived scales describing student-centered and directive teaching techniques. The student-centered aspect focused on active and direct instructional techniques that encouraged student learning, and allowed students to predict, infer, and generalize. Directive teaching was more teacher-centered with traditional instructional techniques and traditional approaches to classroom management. Item responses were based on a 5-point Likert scale. The student-centered scale had a maximum score of 95 points; the directive scale had a maximum score of 75 points. The EAI was administered to both groups of teachers prior to the beginning of the school year, after five months of teaching, and at the end of the school year.

Guyton, et al. (1991) reported the results of student-centered and teacher-centered educational attitudes for three time periods. For the student-centered attitude, the scores for AC teachers were: 81.65 (beginning of year), 81.67 (midyear) and 81.80 (end of year) while those for RC teachers were 83.84, 83.61 and 84.93.
respectively. Both the AC and RC groups scored relatively high at the beginning, and maintained relatively high scores on the student-centered scale all through the three periods. However, there were no significant differences found between the two groups.

As for teacher-centered attitude, the scores for AC teachers were: 40.87, 44.33 and 43.70 while those for RC teachers were 43.96, 45.22 and 43.60 respectively for the three evaluation periods. All scores were in the moderate range. The RC teachers demonstrated a significantly higher teacher-centered mean score at the beginning of the year. There were significant differences found between the beginning of the year scores and the midyear scores for both groups.

According to Guyton, et al. (1991), at the end of the year, results indicated there were no significant differences between the two groups on scores for the student- or teacher-centered methods. No significant changes were found in both groups. Guyton, et al. concluded that the educational attitudes of both groups were rather stable.

The teaching attitudes Inventory (TAI) developed by Guyton, as cited in Guyton, Fox, and Sisk (1991) consisted of 43 items related to efficacy of the teacher education program, attitude toward students, school environment, attitude toward teaching, self confidence, support, locus of control, satisfaction with education in our society, comfort in the school, and teaching problems. The TAI responses were item-analyzed. Three items were found to have significant differences. The AC teachers were significantly more positive about their teacher education program and their
improvement of teaching abilities over the first month of teaching. RC teachers were significantly more satisfied with the structure and organization of education in our society. The RC and AC teachers responded similarly on all other measures.

The Teacher Efficacy Scale developed by Gibson and Dembo, as cited in Guyton, et al. (1991) was a self-evaluation of one's ability to bring about positive student change. The Efficacy Scale was administered to AC and RC teachers after five months of teaching and at the end of the year.

After one month of teaching, the AC teachers were evaluated for performance with a 15-item evaluation form by their mentor and a principal, assistant principal, department chair, or peer teachers. The RC teachers also were evaluated by two persons from the following groups: principal, assistant principal, department chair or peer teacher. The scores on items were totaled from each evaluator and compiled to give a total rating of teacher performance with a possible range of 15-75. During the first month of teaching, the mean evaluation score of AC teachers was 64.18 and the mean evaluation score for RC teachers was 60.79. The difference was not significant.

At the end of the school year (May, 1989), the EAI, the Teacher Efficacy Scale and the TAI were completed by 11 AC and 15 RC teachers. The beginning teachers were evaluated again by only the mentor for the AC teachers and an administrator or department chair chosen by the RC teacher. The mean AC score was 64.38, and the mean RC score was 62.67. At the end of the first year of teaching, the two groups were comparable. No significant differences between
the groups were found on student- or teacher-centered scores. No significant differences between the groups were found for either report of teaching efficacy. Few significant differences between the AC and RC teachers were found on TAI items. The AC teachers were more positive towards their teacher education program after the first month of teaching. The RC teachers were more positive about staying in the teaching profession. However, the retention rate for AC teachers was 83% while the rate for other alternative certified teachers was as low as 25% (Guyton, Fox, & Sisk, 1991).

Johns Hopkins University, in collaboration with two urban local education agencies and the Maryland State Department of Education (MSDE), developed a field-based, 2-year experimental program leading to alternative certification and a Master's degree in special education. The program focused on working with students with mild to moderate disabilities (MMD). Rosenberg and Rock (1994) evaluated the efficacy of the field-based, collaborative delivery model, Alternative Certification (ALTCERT) program. One of the goals was to evaluate the effectiveness of the non-traditional training approach in terms of the attainment of critical teaching competencies.

The ALTCERT program provided a high degree of university supervision, ranging from bi-weekly at the start of the program to 10 visits during the second year. During the 2-year practicum period, the trainees attended a 3-hour methods seminar once a week. The seminars focused on: (a) critical pedagogical skills for secondary teachers of students with MMD, (b) utilization of field-based activities, and (c) supportive networks for beginning teachers. The
trainees also completed two core special education courses in the summer between year 1 and 2.

To evaluate the outcome of the non-traditional training approach, data were collected throughout the 2-year training cycle. Teacher performance data were collected from a number of sources: principals, supervisors, and mentors. The performance data were compared to data collected from a group of beginning traditional special education teachers.

During the first training cycle, 18 Non-Traditional candidates participated. Twelve of them completed the program within the scheduled time to become certified special education teachers. In assessing ALTCERT teacher performance, Rosenberg and Rock (1994) used six sources of data: (a) direct classroom observation by university supervisor, (b) formal teacher evaluation by the local education agencies (LEAs), (c) survey administered to supervisory personnel on teachers' competencies on specific instruction, (d) competency data collected from traditionally trained special educators who began their teaching careers at the same time as the ALTCERT, (e) self-evaluations of the ALTCERT teachers, and (f) self reports of professional growth and development over the process of the training.

Each ALTCERT intern was matched with a special education beginning teacher placed in similar classroom settings. Two types of data were collected for the study: (a) survey data of 50 competency items, and (b) actual performance evaluation data from matched beginning teachers who had completed traditional certification programs. The Teacher Advisor Comparison Rating Form (TACRF) was
partly adapted from Hughes and Hukill, and partly adapted from Hutton as cited in Rosenberg and Rock (1994). The 50-items compared an alternative certification intern with an average beginning teacher on competencies in the areas of: (a) student needs, (b) instruction delivery and student management, (c) providing feedback, and (d) accepting duties and responsibilities in the school.

Data from both groups were collected twice yearly from building principals and special education supervisors. Principals of both traditionally certified, first-year special educators and ALTCERT teachers completed the adapted Principal’s Survey developed by Hutton, as cited in Rosenberg and Rock (1994) at the end of each project year. There were no significant differences between the two groups on either evaluation: first year, t(23) = -1.29, p = .21; second year, t(16) = .43, p = .67. Principals also completed the adapted TACRF, a 50-item competency rating form at the end of the project. Again, there were no significant differences between the two groups, t(17) = .16, p = .88.

Appropriate LEA supervisors completed the Principals’ Survey for both groups of teachers. There were no significant differences between the two groups at the end of the first year, t(16) = .74, p = .47, or at the end of the project, t(8) = .43, p = .70. Data from the TACRF as provided by the LEA supervisors at the end of the project indicated no significant differences between the competencies of the two groups, t(8) = .43, p = .68. Rosenberg and Rock (1994) concluded that ALTCERT teachers and traditionally-trained special educators were equally competent as assessed by the outside raters.
Specifically, Rosenberg and Rock (1994) found that: (a) alternative certified teachers were at satisfactory or exceeding levels in their first year of teaching; (b) alternative certified teachers demonstrated specific instructional and management competencies at better than satisfactory levels; and (c) there were no significant differences between ratings of the alternative certified teachers and those from the control group.

Edelen-Smith and Sileo (1996) conducted a survey study to assess the outcomes of an Alternative Basic Certification Program in Special Education (ABC-SE). The ABC-SE program was located at the University of Hawaii at Manoa and was developed in collaboration with the Hawaii Department of Education (DOE). The ABC-SE was an integrated, field-based special education teacher preparation program designed to prepare individuals to teach students with disabilities at all severity levels. The program was designed for college graduates who: (a) had not completed a state-approved teacher education program, (b) were special education teachers for Hawaii Department of Education temporarily, and (c) planned to acquire a basic special education teaching certificate in the State of Hawaii. Candidates had to have a bachelor's degree or higher and enrolled in the program as unclassified graduate students. These candidates took courses in: (a) exceptional conditions; (b) legal, ethical, and theoretical bases for teaching exceptional individuals, consulting professional, parents, and family members; (c) assessment and instructional interventions; (d) classroom management; and (e) supervised on-site field experiences.
Edelen-Smith and Sileo (1996) surveyed three cohort groups from three years, a total of 54 participants, who had completed the ABC-SE program. The study examined: (a) the characteristics and educational background of program participants, (b) the placement settings and classification and number of students with disabilities taught by graduates from the ABC-SE program, (c) participants' confidence level in demonstrating competencies in teaching, and (d) the certification, attrition, and retention rates of program participants. The researchers focused on the participants' competencies in two dimensions: (a) the participants' perceived importance of course competencies, and (b) their confidence in demonstrating these competencies when working with students with disabilities. A 4-point Likert-type scale was developed for respondents to rate the importance of course competence related to working with students who have disabilities. Another scale was developed for rating the confidence level in competency in the classroom.

According to Edelen-Smith and Sileo (1996), participant perception among three cohort groups regarding the importance of program competencies was higher than their confidence level of meeting those competencies on completion of the program. The differences between means were small, ranging from 1.88 to 3.77. Both the importance and confidence scales indicated high ratings over-all. Members of each cohort claimed that the support among themselves was priceless. The group cohesiveness might also have influenced perceptions of course competencies (Edelen-Smith & Sileo, 1996).
Miller, McKenna, and McKenna (1998) compared traditional certification (TC) program graduates with those from a carefully structured alternative certification (AC) program. The AC program involved condensed course work to meet provisional certification standards. These researchers examined the observable differences in teaching in relationship to training differences.

Forty-one AC teachers were matched with TC teachers. Both groups had 3 years of teaching experience. The AC participants graduated from the same program in a university in Georgia. They taught the same content area at the same school. The TC participants graduated at the same time from varying TC programs from instate, out-of-state and private institutions.

Miller, et al. (1998) used a 15-item, 4-node rating scale to evaluate observed lessons for specific dimensions of instruction. The instrument had two subscales: (a) Effective Lesson Components: Focus, Objective and Purpose, Goal Direction, Exposition, Modeling, Practice, Monitoring, Feedback and Adjustment, and Closure, and (b) Effective Pupil-Teacher Interaction Components: Questioning Strategies, High Pupil Participation, Creative and Enthusiastic Presentation, Appropriate Reinforcement, Appropriate Constructive Criticism, and Appropriate Negative Consequences.

The researchers trained two certified teachers as the observers. Each category of teacher behavior was clearly defined. They also trained the observers in script taping and converted the completed script tapes into viable ratings. The instrument was validated by Miller and McKenna, as cited in Miller, et al. (1998). The observers didn’t know whether the participants were from the AC or
Miller, et al. (1998) used three separate MANOVAs to determine if the small sample differences between groups obtained in the study indicated real differences in the populations or were due to sampling variability. In the first MANOVA, the two subscales were used as dependent variables. No group differences on the two subscales were found, Wilk's lambda = .98, $F(2, 31) = 0.4$, $p = .69$. In the second MANOVA, the nine Effective Lesson Component categories were used as the dependent variables. No significant differences were found, Wilk's lambda = .76, $F(9, 24) = 0.8$, $p = .59$. In the last MANOVA, the six Effective Pupil-Teacher Interaction measures were used as dependent variables. No significant differences were found, Wilk's lambda = .93, $F(6, 66) = 0.9$, $p = .53$. Miller, et al. concluded that the alternative and traditional groups did not differ significantly on the observed teaching behaviors.

Summary of Alternative Certification Studies

The combined findings from these studies suggest that teachers in non-traditional alternative certification programs demonstrated competency in the classrooms, similar to traditionally-prepared teachers. Additionally, both AC and TC teachers were successful on the National Teacher Exams. When comparing outcome scores related to implementing student-centered or teacher-centered methods, no significant differences were found between AC and TC teachers. No significant differences were found
from reports of teaching efficacy either. Alternative certified teachers were at satisfactory levels in their first year of teaching with higher ratings in specific instructional and management competencies. Perhaps the most important finding among this body of literature was there were no statistically significant differences in teaching behaviors among AC and TC teachers. In one study (Edelen-Smith & Sileo, 1996), members of each non-traditional cohort claimed that the support among themselves was particularly valuable.

Peer Support in Alternative Certification Programs

A variety of educators and researchers have commented on the importance of providing support to individuals enrolled in alternative teacher preparation programs. Support seems to be one of the critical variables related to successful Alternative Certification programs. However, no literature found regarding peer support in Alternative Certification programs was data-based.

Adelman, Michie, and Bogart (1986) conducted a comprehensive review of 20 alternative teacher certification programs. They conducted telephone interviews with program administrators, program participants and their supervisors, and traditionally prepared teachers who had contact with the alternative participants. One of the questions inquired about the “group feelings” associated with being part of a special program. The participants revealed that peer support systems were very important to successful completion of their programs. Some even regarded this feature to be the
strength of the program. The university’s commitment toward peer support also was a critical issue.

Rife, Maloy, and Keefe (1988) stated that effective support systems are essential for non-traditional students to succeed in teacher preparation programs. They deduced that career changes create large amounts of personal stress and therefore participants in these programs need encouragement and support throughout their preparation programs.

Little (1990) discussed the importance of mentoring new alternatively certified teachers and stated that many new teachers do not receive sufficient assistance from their mentors. According to Little, the reason for this is many mentors feel uncomfortable offering advice and prefer providing encouragement and friendship instead of specific instructional guidance.

Conclusions Related to Peer Coaching and Alternative Certification Literature

The limited number of empirically-based peer coaching studies indicates a need for more research. Much of the literature related to peer coaching has been descriptive in nature and largely based on expert opinion. The studies reviewed in this chapter represent the beginning of a knowledge base that supports the use of peer coaching in both inservice and preservice education. More research is needed, however, to refine the specific coaching procedures that ultimately result in better teaching and therefore better learning among students. The effectiveness of peer coaching in promoting positive attitudes toward coaching also needs to be investigated. This is
important because attitudes about peer coaching will likely influence individuals’ willingness to use the process over time.

Literature relating to Alternative Certification also is limited. Preliminary studies have been conducted to compare AC and TC teacher preparation. Initial findings indicate that AC and TC teachers perform equally well on teacher exams and in their respective classrooms. Many experts have noted the importance of providing support to students enrolled in AC programs. To date, no studies have been conducted related to the use of peer coaching within AC or non-traditional teacher preparation programs. Therefore, research in this area would provide new knowledge for teacher educators and preservice teachers. This knowledge is very important since the number of AC and non-traditional programs is increasing to meet teacher shortages across the country.
CHAPTER 3

METHOD

The purpose of Chapter 3 is to describe the methodology and procedures used in this study. The chapter has been organized into five sections: statement of the research hypotheses, description of the subjects, description of the research Instrumentation, description of procedures, and treatment of the data.

Research Hypotheses

Traditional and Non-Traditional student-teachers in special education who used preservice peer coaching procedures were compared on several variables. The specific research hypotheses tested in this study were:

H1. There will be a differential change from pre- to post-assessment scores in the acquisition of effective teaching behaviors after participation in peer coaching between the Traditional and Non-Traditional group of student-teachers.

H2. There will be a differential change from pre- to post-assessment scores in the reduction of ineffective teaching behaviors after the participation in peer coaching between the Traditional and Non-Traditional group of student-teachers.
H3. There will be a differential change from pre- to post-survey scores in their attitude toward peer coaching between the Traditional and Non-Traditional group of student-teachers.

In addition, student-teachers' views regarding peer coaching were investigated by using the following three open-ended questions:

1. What are the advantages of peer coaching?
2. What are the disadvantages of peer coaching?
3. For what purposes would you use peer coaching?

Description of the Subjects

There were 57 student-teachers in the pool of potential participants for this study. They comprised two groups: 27 Traditional student-teachers and 30 Non-Traditional student-teachers. All of the student-teachers were completing the requirements for an initial teaching license in special education. They were enrolled in a 12-week student teaching course in the Department of Special Education at the University of Nevada, Las Vegas. During the 12 weeks, student-teachers were placed in the public classrooms for internship in teaching. They met once a week for the curriculum seminar class at the college. The Traditional and the Non-Traditional groups met separately on two different days. However, they had the same instructor.

In the seminar class, they learned curricular design, teaching skills, behavior management strategies, and teacher licensing requirements and procedures. They also shared experiences they
encountered in their classroom teaching. The master teachers in the schools were their mentors for teaching and curricular design. The university supervisors visited and observed their classroom teaching regularly. The supervisor and the student-teacher had a postconference after each observation. They discussed the strengths and weaknesses of the presentation and set goals for improvement in teaching. However, this interaction did not start before the preassessment of the student-teachers' teaching effectiveness.

**Acquiring Participants**

Prior to the beginning of the student teaching experience, an orientation session was held for student-teachers and their respective university supervisors. During this orientation, the researcher met with the student-teachers and university supervisors to provide a broad overview of the study (i.e., a dissertation study to investigate peer coaching approaches for helping student-teachers during their field experience) and to acquire consent forms (Appendix A) from those who were willing to participate in this study. Thirty-six student-teachers (16 Traditional and 20 Non-Traditional) agreed to participate in the study. Demographic data from included subjects are summarized in Table 1. Four out of six university supervisors agreed to participate in this study. Demographic data for these supervisors are summarized in Table 2.

**Description of the Research Instrumentation**

There were two research instruments used in this study: The Florida Performance Measurement System (FPMS) (Peterson, Micceri,
Table 1  **Demographic Information of Student-Teachers**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Traditional (n=16)</th>
<th>Non-Traditional (n=20)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agegroup</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-30</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>31-40</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>41-50</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>50-60</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Female</td>
<td>10</td>
<td>17</td>
</tr>
<tr>
<td><strong>Level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undergraduate</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Graduate</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>African-American</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Asian-American</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Hispanic</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Biracial</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Native-American</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td><strong>GPA</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>Overall</td>
<td>3.37</td>
</tr>
<tr>
<td></td>
<td>Special Ed.</td>
<td>3.56</td>
</tr>
<tr>
<td>Range</td>
<td>Overall</td>
<td>2.66-4.00</td>
</tr>
<tr>
<td></td>
<td>Special Ed.</td>
<td>2.82-4.00</td>
</tr>
</tbody>
</table>

& Smith, 1985) (Appendix B) and the Attitude Survey (Appendix C). The FPMS was used to assess the frequency of effective and ineffective teacher behaviors during instructional lessons. The
Attitude Survey was used to assess student-teachers' attitudes toward peer coaching.

Table 2  **Demographic Information of Supervisors**

<table>
<thead>
<tr>
<th>Supervisors</th>
<th>Sex</th>
<th>Years of Teaching</th>
<th>Years of Supervision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisor 1</td>
<td>F</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Supervisor 2</td>
<td>F</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Supervisor 3</td>
<td>F</td>
<td>0</td>
<td>.5</td>
</tr>
<tr>
<td>Supervisor 4</td>
<td>F</td>
<td>6</td>
<td>0</td>
</tr>
</tbody>
</table>

**Florida Performance Measurement System**

The data collectors used the Florida Performance Measurement System (FPMS) as shown in Appendix B (Florida Coalition for the Development of a Performance System, 1983). There are 19 effective teaching behaviors and 19 ineffective teaching behaviors listed for observation. These teaching behaviors are research-based and directly relate to student achievement and classroom conduct (Peterson, Micceri, & Smith, 1985). The original Florida Performance Measurement System was developed and supported by a combination of teacher educators and practitioners from universities, school districts, and the Florida Department of Education. According to Peterson, Micceri and Smith, the instrument included broad sampling...
of Florida schools and was validated for measuring both preservice and inservice teacher performance in the classroom.

**Attitude Survey**

Participants' attitude toward peer coaching was measured using a 5-item Likert scale developed by this researcher (Appendix C). The questionnaire consisted of 10 statements and 3 open-ended questions. For each statement, the participant circled the number that indicated degree of agreement or disagreement. Drafts of the questionnaire were critically reviewed by eleven professors, thirty graduate students, two teachers and two researchers at the Cannon Survey Research Center at the University of Nevada, Las Vegas. The form was revised based on these reviews. The questionnaire was field tested with 20 graduate assistants and 25 doctoral students, and again revised based on their feedback. The questionnaire was designed to investigate participants' attitudes toward peer coaching during the first and last week of the student teaching period.

**Description of Student Teaching Placement Procedures**

Prior to initiating this study, during the Spring 1999 semester, student-teacher placements were made. The usual procedure for making summer student-teacher placements was followed. The two faculty Co-ordinators of the Undergraduate and Graduate Generalist Programs in the Department of Special Education at the University of Nevada, Las Vegas (UNLV) along with the Field Placement Liaison from the College of Education field Place Office at UNLV reviewed student applications for summer student teaching. Students were only placed in year round
elementary or middle school settings because no year round high schools existed in Las Vegas. Several criteria were used to determine student teaching placements.

First, the decision to place the undergraduate student-teachers in elementary or middle schools was made based on their previous field experience placement. If the previous experience occurred in an elementary setting, the student was given a middle school placement for student teaching. If the previous field experience occurred in a middle or high school setting, the student was given an elementary placement for student teaching. Graduate students were not required to complete a previous field experience and therefore were allowed to select either elementary or middle school for their student teaching experience.

The second criteria used to determine student teaching placements was students' requests for locations near their current residence (i.e., northeast, northwest, southeast, southwest, or central Las Vegas). The third criteria used to determine student teaching placements was clinical judgment of the faculty coordinators and the placement liaison with regard to potential good matches between the student-teacher and available cooperating teachers.

Observation data collected in potential cooperating teachers' classrooms as well as previous experience with cooperating teachers also were used to assist with these judgments. After all potential student teaching placements were planned, the placement liaison contacted the principals at the selected school sites to
confirm their willingness to work with a student-teacher during the summer semester.

Description of the Procedures

The procedures for this study were incorporated into three phases. Phase one involved preparation for the study (i.e., placements, training, preassessments). Phase two involved implementation of the coaching procedures and phase three involved postassessments to measure differences between the Traditional and Non-Traditional student-teachers.

Phase One: Study Preparation

Phase one of this study involved training (i.e., university supervisors) and preassessments (i.e., initial teaching skills and attitude toward peer coaching). These activities took place before the study implementation.

Supervisors Training

The university supervisors (N=4) attended a 2-hour training session to review the process of collecting data while observing student-teachers. Specifically, the training included three steps. During the first step, the researcher reviewed each of the effective and ineffective teaching behaviors listed on the Summative Observation Form of the Florida Performance Measurement System (Peterson, Micceri, & Smith, 1985). This was the form that was used to evaluate student-teachers during observations in the classrooms. During the second step, the supervisors viewed two videotapes of teachers delivering lessons. While watching the videotapes, the supervisors used the Summative Observation Form to record the
effective and ineffective teaching behaviors displayed by the teacher on the tape. Next, interrater agreement between the supervisors was assessed. A criterion of 80% or higher agreement (Michelson, Sugai, Wood, & Kazdin, 1983) was established. The training session concluded when the 80% agreement criterion was met on two consecutive video tape observations.

**Interrater Agreement**

To obtain an estimate of interrater agreement, the researcher and the supervisors independently rated effective and ineffective teaching behaviors while watching two 20-minute teaching presentations on video-tapes. The researcher and each supervisor rated each video teaching presentation using the Florida Performance Measurement system (FPMS) Summative Observation Form. For the first tape, interrater agreement between the supervisors and researcher ranged from was 80.7% to 84.5% with the researcher. For the second tape, interrater observation agreement between the supervisors and researcher ranged from 80% to 84.1% (see Table 3).

<table>
<thead>
<tr>
<th>Supervisors</th>
<th>First Tape</th>
<th>Second Tape</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>81.4%</td>
<td>82.9%</td>
</tr>
<tr>
<td>2</td>
<td>84.5%</td>
<td>81.0%</td>
</tr>
<tr>
<td>3</td>
<td>82.6%</td>
<td>84.1%</td>
</tr>
<tr>
<td>4</td>
<td>80.7%</td>
<td>80.0%</td>
</tr>
</tbody>
</table>
Preassessment

During the first week of the 2-hour weekly student teaching seminar course, student-teachers who agreed to participate in this study were asked to complete an Attitude Survey. During the third or fourth week (see schedule in Appendix D), the university supervisors observed the student-teachers teaching a lesson in their field-based resource room settings. The 1983 Florida Performance Measurement System (FPMS) form was used to measure their effective and ineffective teaching behaviors. Each participant was observed by the university supervisor for 20 minutes as a baseline. The university supervisors placed a tally mark in the appropriate column each time they observed a behavior listed on the FPMS form. Interrater agreement reliability measures were obtained.

To evaluate the interrater reliability between the researcher and the supervisors, the researcher observed 25% of the preassessment student-teacher observations with the supervisors. Interrater observation agreement ranged from 81.3% to 84.9% (see Table 4).

<table>
<thead>
<tr>
<th>Supervisors</th>
<th>Preassessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>82.9%</td>
</tr>
<tr>
<td>2</td>
<td>83.4%</td>
</tr>
<tr>
<td>3</td>
<td>81.3%</td>
</tr>
<tr>
<td>4</td>
<td>84.9%</td>
</tr>
</tbody>
</table>
Phase Two: Implementation of Peer Coaching Procedures

Student-teachers of the two groups were randomly paired for peer coaching. Peer coaching procedures lasted for three weeks. Implementation of the peer coaching procedures involved training the student-teachers in peer coaching and then implementing specific peer coaching procedures designed for this study.

Peer Coach Training

The peer coaching training took place during the regularly scheduled weekly student-teacher seminar time. During the fifth week of the seminar, both groups of student-teachers (traditional and non-traditional) received training in specialized peer coaching procedures. The first peer coaching training session involved overviews of: (a) the research on peer coaching, (b) the observation form (FPMS) for effective and ineffective teaching behaviors, (c) 1995 peer coaching instrument "Scale for Coaching Instructional Effectiveness (SCIE)" (Appendix E), and (d) factors influencing peer coaching relations. Training included how to take anecdotal notes during observation. The second peer coaching training session covered: (a) pre- and post-conferencing skills, (b) setting of goals, (c) strategies for observation, (d) usage of different forms developed for peer coaching procedures by the researcher, and (e) instructional strategies.

Peer Coaching Procedures

After the training sessions, student-teachers implemented the coaching cycle three times during week 7 to week 9 of the student teaching semester. The coaching cycle involved pre-observation conference, observation, and post-observation conference. Three
forms were created to be used during the cycle: Pre-observation Conference form, Observation form, and Post-Conference form (see Appendix F). The pre-observation conferences occurred during the weekly student-teacher seminar or other appropriate time scheduled by the student-teachers. During these pre-observation conferences, coaching dyads set up their observation times, reviewed their preassessment observation data, established goals and strategies for improvement, and worked on lesson plans together. Each coachee identified three FPMS behaviors from the record of their initial observation by the university supervisor. In addition to teaching behaviors selected from the FPMS, other behaviors either from the SCIE or by own choice were targeted for improvement. Specific teaching behaviors and goals were listed on the Pre-observation forms. Student-teachers then took turns observing each other in their respective field-placement classrooms. Student-teachers used the observation record form to record the frequencies of the target teaching behaviors during the observed lesson. During the observation, the coach also made anecdotal notes about the teaching. After each observation, a coaching session was conducted (post-conference) and the post-conference form was used. The procedures were: (a) the coachee self-evaluated the lesson just taught; (b) the coach discussed the coachee’s progress on the target teacher behaviors; and (c) both established new target behaviors for the following observation session. These feedback sessions were scheduled at the student-teachers’ convenience. Each post-conference was tape-recorded in case the coach and coachee wanted to review what they discussed and agreed upon. The university
supervisors observed the student-teachers three to four times during the 12-week student teaching period.

Phase Three: Postassessments

Phase three of this study involved two postassessments: the final FPMS supervisor observation and the Post Attitude Survey. The students in both groups were observed during the 10th or 11th week of their student teaching for 20 minutes by the university supervisor. The final FPMS observation (i.e., posttest) was the primary dependent measure for evaluation. The lesson observed for the postassessment was supposed to be the same type of lesson as the one observed for the preassessment.

To evaluate the interrater reliability between the researcher and the supervisors, the researcher observed 25% of the postassessment student-teacher observations with the supervisors. Interrater observation agreement was established from 80.6% to 82.1% with the researcher (see Table 5).

Both groups of student-teachers completed the peer coaching Attitude Survey during the final week of student teaching.

<table>
<thead>
<tr>
<th>Supervisors</th>
<th>Postassessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>82.1%</td>
</tr>
<tr>
<td>2</td>
<td>80.8%</td>
</tr>
<tr>
<td>3</td>
<td>80.6%</td>
</tr>
<tr>
<td>4</td>
<td>81.3%</td>
</tr>
</tbody>
</table>
Treatment of the Data

Three repeated measures of analyses of variance (ANOVA) were conducted using the Traditional and Non-Traditional groups as the between-group variable and preassessment and postassessment scores as the within-group variable. Dependent measures were effective teaching behavior scores, ineffective teaching behavior scores, and attitude scores toward peer coaching. The independent variable was Traditional vs Non-Traditional group.
CHAPTER 4

RESULTS

In this chapter, results related to the three research hypotheses are discussed. Three repeated measures of analyses of variance (ANOVA) were conducted using the Traditional and Non-Traditional groups as the between-group variable and preassessment and postassessment scores as the within-group variable. Dependent measures were effective teaching behavior scores, ineffective teaching behavior scores, and attitude scores toward peer coaching.

Hypothesis one: There will be a differential change from pre- to post-assessment scores in the acquisition of effective teaching behaviors after participation in peer coaching between the Traditional and Non-Traditional group of student-teachers.

There was a statistically significant ordinal interaction effect between the group and timing of the assessment in effective teaching behaviors, $F(1, 34) = 4.67, p < .05, \eta^2 = .12$, indicating a relatively weak association between the independent and dependent variables. Table 6 lists the means and standard deviation scores of the Traditional and Non-Traditional groups. Students in the Traditional group showed a significant increase in effective teaching behavior, whereas those in the Non-Traditional group did not.

95
Hypothesis two: There will be a differential change from pre- to post-assessment scores in the reduction of ineffective teaching behaviors after the participation in peer coaching between the Traditional and Non-Traditional group of student-teachers. There was neither a statistically significant interaction effect, $F(1, 34) = .19, p = .66$; nor main effects, $F(1, 34) = .86, p = .36$ for pre- and post-assessment, and $F(1, 34) = .02, p = .90$ for the Traditional group and the Non-Traditional group. Table 6 shows the means and standard deviation scores of the two groups.

Table 6  Group mean and standard deviation scores for teaching behavior

<table>
<thead>
<tr>
<th>Measure</th>
<th>Traditional Group (n = 16)</th>
<th>Non-Traditional Group (n = 20)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Effective</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preassessment</td>
<td>22.31</td>
<td>10.98</td>
</tr>
<tr>
<td>Postassessment</td>
<td>35.06</td>
<td>17.10</td>
</tr>
<tr>
<td>Ineffective</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preassessment</td>
<td>3.44</td>
<td>3.41</td>
</tr>
<tr>
<td>Postassessment</td>
<td>3.06</td>
<td>3.02</td>
</tr>
</tbody>
</table>

Hypothesis three: There will be a differential change from pre- to post-survey scores in their attitude toward peer coaching between the Traditional and Non-Traditional group of student-teachers. There was neither a statistically significant interaction effect, $F(1, 34) = .10, p = .75$; nor statistically significant main
effects, $F(1, 34) = .13, p = .72$ for the pre- and post-assessment, and $F(1, 34) = .35, p = .56$ for the Traditional and the Non-Traditional group. Table 7 lists the means and standard deviation scores of the two groups for the attitude measure toward peer coaching. For the Non-Traditional Group, the postassessment for attitude measure toward peer coaching showed greater variance ($M = 38.55, SD = 8.67$) than the preassessment ($M = 39.50, SD = 5.52$). It indicated larger deviation from the mean of the distribution of the responses from the questionnaire. As for the Traditional group, the variability in the distribution is minimal between the postassessment ($M = 38.00, SD = 5.32$) and the preassessment ($M = 38.06, SD = 5.58$).

Table 7  
<table>
<thead>
<tr>
<th>Attitude</th>
<th>Traditional Group</th>
<th>Non-Traditional Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n = 16)</td>
<td>(n = 20)</td>
</tr>
<tr>
<td>Preassessment</td>
<td>Mean 38.06, SD 5.58</td>
<td>Mean 39.50, SD 5.52</td>
</tr>
<tr>
<td>Postassessment</td>
<td>Mean 38.00, SD 5.32</td>
<td>Mean 38.55, SD 8.67</td>
</tr>
</tbody>
</table>

Descriptive Analysis of Peer Coaching

To investigate the general views student-teachers had regarding peer coaching, three open-ended questions were included in the survey questionnaire: (1) What are the advantages of peer coaching? (2) What are the disadvantages of peer coaching? and (3) For what purposes would you use peer coaching?
Analysis Process

Data analysis followed in part the format used by Hong, Topham, Carter, Wozniak, Tomoff, and Lee (in press). Responses from each student-teacher were analyzed using the following procedure for category elicitation:

1. Listing and compiling: Responses were transcribed and entered into a computer file.

2. Category elicitation: Each response was judged and tentatively labeled. The tentative labels were examined to determine if there were common categories that could be elicited.

3. Tentative mapping: All student-teachers’ responses were mapped onto the tentative categories. Categories were inspected for further revisions.

4. Mapping: After the categories were formed, all student-teachers’ responses were mapped onto the proper category. Each student-teacher’s statements were reorganized according to the categories identified to provide case examples in each category.

The findings were organized by first presenting the categories of constructs elicited from all student-teachers’ statements.

Categories of Constructs

For the first open-ended question, student-teachers expressed their opinions regarding the advantages of peer coaching. Seven categories were elicited from the responses from the pretest: (a) Don’t know/Can’t tell, (b) Sharing ideas/strategies with peers, (c) Improving teaching skills, (d) Receiving feedback from peers, (e) Benefiting students/programs (f) Improving collaboration, and (g) No advantage. Eight categories were elicited from the responses from
the posttest: (a) Don’t know/Can’t tell, (b) Sharing ideas/strategies with peers, (c) Improving teaching skills, (d) Receiving feedback from peers, (e) Benefiting students/programs, (f) Improving collaboration, (g) Improving problem-solving skills, and (h) Impartial observation.

For the second open-ended question, student-teachers expressed their opinions regarding the disadvantages of peer coaching. Eight categories were elicited from the responses from the pretest: (a) Don’t know, (b) Time consuming, (c) Time away from home classroom, (d) No disadvantage, (e) Personality incompatibility, (f) Questioning peers’ knowledge or input, (g) Difficulty in obtaining cooperation, and (h) Uncomfortable receiving feedback. For the posttest of the second question, six responses were elicited: (a) Time consuming, (b) Time away from home classroom, (c) No disadvantage, (d) Logistical issues, (e) Personality incompatibility, and (f) Inability to provide meaningful feedback.

For the third question regarding purposes of using peer coaching, six categories were elicited from the responses from the pretest: (a) Don’t know/Undecided, (b) Improving teaching skills, (c) Sharing ideas/Strategies with peers, (d) Building confidence, (e) Improving students’ learning, and (f) Assisting student-teachers. Categories elicited from the responses of the posttest were: (a) Don’t know/Undecided, (b) Improving teaching skills, (c) Sharing ideas/strategies with peers, (d) Improving students’ learning, (e) Improving school programs, (f) Evaluating self, (g) Assisting student-teachers, and (h) Consulting others.
The frequencies of responses to open-ended attitude questions were analyzed. The frequencies of most responses were low in number. However, there was an increase in identification of Advantages and Disadvantages after the peer coaching intervention.

**Findings Related to Peer Coaching Advantages**

During the pretest, 10 (58.8%) student-teachers in the Traditional group and 7 (35%) student-teachers in the Non-Traditional group indicated they didn’t know advantages of peer coaching. On the posttest, only 3 (12%) student-teachers in the Non-Traditional group failed to identify advantages of peer coaching. No one in the Traditional group failed to identify advantages of peer coaching. This indicated improvement. On the pretest, 4 (23.5%) student-teachers in the Traditional group and 6 (30%) student-teachers in the Non-Traditional group predicted that peer coaching would help them share ideas or strategies with their peers. On the posttest, 10 (43.5%) student-teachers in the Traditional group and 11 (44%) student-teachers in the Non-Traditional group identified this sharing as an advantage of peer coaching. On the pretest, 1 (5%) student-teacher in the Traditional group and 1 (5.9%) student-teacher in the Non-traditional group predicted peer coaching would benefit students or improve school programs. After the peer coaching intervention, 4 (17.4%) student-teachers in the Traditional group indicated that peer coaching benefits students or improves school programs, but no one from the Non-Traditional group listed this as an advantage (see Table 8).
Table 8  **Frequencies (Per cents) of Student-Teachers’ Responses to Each Category of Advantages on Peer Coaching**

<table>
<thead>
<tr>
<th>Categories of Advantage (Open-ended Question #1)</th>
<th>Traditional (n=16)</th>
<th></th>
<th>Non-Traditional (n=20)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pretest</td>
<td>Posttest</td>
<td>Pretest</td>
<td>Posttest</td>
</tr>
<tr>
<td>Don’t know/Can’t tell</td>
<td>10 (58.8)</td>
<td>–</td>
<td>7 (35)</td>
<td>3 (12)</td>
</tr>
<tr>
<td>Sharing ideas/strategies with peers</td>
<td>4 (23.5)</td>
<td>10 (43.5)</td>
<td>6 (30)</td>
<td>11 (44)</td>
</tr>
<tr>
<td>Improving teaching skills</td>
<td>1 (5.9)</td>
<td>3 (13)</td>
<td>2 (10)</td>
<td>4 (16)</td>
</tr>
<tr>
<td>Receiving feedback from peers</td>
<td>–</td>
<td>3 (13)</td>
<td>2 (10)</td>
<td>4 (16)</td>
</tr>
<tr>
<td>Benefiting students/programs</td>
<td>1 (5.9)</td>
<td>4 (17.4)</td>
<td>1 (5)</td>
<td>–</td>
</tr>
<tr>
<td>Improving collaboration</td>
<td>1 (5.9)</td>
<td>3 (13)</td>
<td>1 (5)</td>
<td>–</td>
</tr>
<tr>
<td>Improving problem-solving skills</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>2 (8)</td>
</tr>
<tr>
<td>Impartial observation</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>1 (4)</td>
</tr>
<tr>
<td>No advantage</td>
<td>–</td>
<td>–</td>
<td>1 (5)</td>
<td>–</td>
</tr>
</tbody>
</table>

- (No response)

**Findings Related to Peer Coaching Disadvantages**

On the pretest, 10 (62.5%) student-teachers in the Traditional group and 7 (32%) student-teachers in the Non-Traditional group said that they didn’t know any disadvantages of peer coaching. After the peer coaching intervention, no one in either group responded that they didn’t know any disadvantages of peer coaching. The main
concern for both groups was the time consuming nature of peer coaching: 3 (18.8%) student-teachers in the Traditional group and 6 (27.3%) student-teachers in the Non-Traditional group reported this concern on the pretest; 10 (52.6%) student-teachers in the Traditional group and 14 (60.9%) student-teachers in the Non-Traditional group reported this concern on the posttest. Other more significant concerns included “time away from home classroom” and “logistical concerns.” On the pretest, no one in the Traditional group but 3 (13.6%) student-teachers in the Non-Traditional group had the concern of “time away from home classroom.” On the posttest, 3 (15.8%) student-teachers in the Traditional group and 4 (17.4%) student-teachers in the Non-Traditional group reported this concern after the peer coaching intervention. On the pretest, neither group mentioned the issue of “logistical concerns.” After the peer coaching intervention, 5 (26.3%) student-teachers in the Traditional group and 2 (8.7%) student-teachers in the Non-Traditional group indicated such concerns (see Table 9).

Findings Related to Purposes for Peer Coaching

Regarding the general attitudes about the purposes of using peer coaching, 8 (53.3%) student-teachers in the Traditional group and 11 (52.4%) student-teachers in the Non-Traditional group expressed no knowledge or were undecided about the issue before the peer coaching intervention. After the intervention, 3 (17.6%) student-teachers in the Traditional group and 2 (9.5%) student-teachers in the Non-Traditional group were undecided about peer coaching purposes. “Improving teaching skills” and “sharing ideas or
**Table 9** Frequencies (Percents) of Student-Teachers' Responses to Each Category of Disadvantages on Peer Coaching

<table>
<thead>
<tr>
<th>Categories of Disadvantages (Open-ended Question #2)</th>
<th>Traditional (n=16)</th>
<th>Non-Traditional (n=20)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pretest</td>
<td>Posttest</td>
</tr>
<tr>
<td>Don't know</td>
<td>10 (62.5)</td>
<td>_</td>
</tr>
<tr>
<td>Time consuming</td>
<td>3 (18.8)</td>
<td>10 (52.6)</td>
</tr>
<tr>
<td>Time away from home classroom</td>
<td>_</td>
<td>3 (15.8)</td>
</tr>
<tr>
<td>No disadvantage</td>
<td>2 (12.5)</td>
<td>_</td>
</tr>
<tr>
<td>Logistical issues</td>
<td>_</td>
<td>5 (26.3)</td>
</tr>
<tr>
<td>Personality incompatibility</td>
<td>1 (6.3)</td>
<td>_</td>
</tr>
<tr>
<td>Inability to provide meaningful feedback</td>
<td>_</td>
<td>1 (5.3)</td>
</tr>
<tr>
<td>Questioning peers' knowledge or input</td>
<td>_</td>
<td>_</td>
</tr>
<tr>
<td>Difficulty in obtaining cooperation</td>
<td>_</td>
<td>_</td>
</tr>
<tr>
<td>Uncomfortable receiving feedback</td>
<td>_</td>
<td>_</td>
</tr>
</tbody>
</table>

- (No response)

strategies with peers” were the most reported purposes for using peer coaching by the two groups: 1 (6.7%) student-teacher in the Traditional group and 7 (33.3%) student-teachers in the Non-Traditional group reported improving teaching skills on the
pretest; 7 (41.2%) student-teachers in the Traditional group and 7 (33.3%) student-teachers in the Non-Traditional group reported improving teaching skills on the posttest. On the pretest, 3 (20%) student-teachers in the Traditional group and 2 (9.5%) student-teachers in the Non-Traditional group reported "sharing ideas or strategies with peers" as a purpose of peer coaching. On the posttest, 4 (23.5%) student-teachers in the Non-Traditional group and 6 (28.6%) student-teachers in the Non-Traditional reported "sharing ideas or strategies with peers" as a purpose (See Table 10).
### Table 10  Frequencies (Percents) of Student-Teachers’ Responses to Each Category of Purposes for Peer Coaching

<table>
<thead>
<tr>
<th>Categories of Purposes</th>
<th>Traditional (n=16)</th>
<th></th>
<th>Non-Traditional (n=20)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pretest</td>
<td>Posttest</td>
<td>Pretest</td>
<td>Posttest</td>
</tr>
<tr>
<td>Don't know/Uncertain</td>
<td>8 (53.3)</td>
<td>3 (17.6)</td>
<td>11 (52.4)</td>
<td>2 (9.5)</td>
</tr>
<tr>
<td>Improving teaching skills</td>
<td>1 (6.7)</td>
<td>7 (41.2)</td>
<td>7 (33.3)</td>
<td>7 (33.3)</td>
</tr>
<tr>
<td>Sharing ideas/strategies with peers</td>
<td>3 (20)</td>
<td>4 (23.5)</td>
<td>2 (9.5)</td>
<td>6 (28.6)</td>
</tr>
<tr>
<td>Building confidence</td>
<td>2 (13.3)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Improving students' learning</td>
<td>1 (6.7)</td>
<td>1 (5.9)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Improving school programs</td>
<td>-</td>
<td>1 (5.9)</td>
<td>-</td>
<td>1 (4.8)</td>
</tr>
<tr>
<td>Evaluating self</td>
<td>-</td>
<td>1 (5.9)</td>
<td>-</td>
<td>1 (4.8)</td>
</tr>
<tr>
<td>Assisting student teachers</td>
<td>-</td>
<td>-</td>
<td>1 (4.8)</td>
<td>2 (9.5)</td>
</tr>
<tr>
<td>Consulting others</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2 (9.5)</td>
</tr>
<tr>
<td>- (No response)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
CHAPTER 5

DISCUSSION

Starting from the late 1970s, research showed that peer coaching assisted inservice teachers in mastering new skills within a supportive environment. Continued research throughout the 1980s to 1990s demonstrated successes in a variety of inservice and preservice peer coaching models throughout the United States. Peer coaching procedures not only helped future teachers develop initial teaching skills but also promoted the importance of collaboration and support among teachers. Researchers who developed different peer coaching models agreed that peer coaching would improve teaching performance of inservice and/or preservice teachers.

The inservice peer coaching literature involved elementary, middle and high school teachers across grade levels and content areas. Moreover, peer coaching was found to be beneficial for special education, general education, bilingual education, and English as a second language teachers. Another benefit of peer coaching was the increase of students' learning. Advocates for preservice peer coaching suggested that preservice teachers need assistance in the transfer of content knowledge into instructional skills used in the classroom. Well-planned peer coaching processes resulted in improvement among both preservice teachers and their students.
Much of the research on peer coaching strategies has been descriptive rather than empirically based.

No data-based research on Non-Traditional teacher preparation was found. Literature relating to Alternative Certification also was found to be quite limited. Studies related to Alternative Certification (AC) teachers mainly compared their preparation to Traditional Certification (TC) teacher preparation. Teachers in non-traditional alternative programs demonstrated competency in the classrooms similar to traditionally certified teachers. Many experts noted the importance of providing support to students enrolled in AC programs but no empirical studies evaluated methods for providing support to AC teacher candidates. Thus, there appeared to be a sound rationale for conducting an empirical investigation involving the use of peer coaching with both Traditional and Non-Traditional student-teachers.

The present study specifically investigated whether participation in preservice peer coaching differentially improves the teaching skills of Traditional and Non-Traditional student-teachers. Data from the pre- and post-assessment scores of the two groups were compared for their effective and ineffective teaching behaviors. Further, student-teachers' attitudes toward peer coaching were compared. Their views toward peer coaching were elicited from the three open-ended questions relating to advantages, disadvantages and purposes of peer coaching.
Review and Discussion of the Hypotheses

Hypothesis One

Hypothesis one dealt with the effects of peer coaching upon student-teachers' acquisition of effective teaching behaviors. The hypothesis stated there would be a differential change from pre- to post-assessment scores in effective teaching behaviors between the Traditional and Non-Traditional group of student-teachers.

An analysis of data indicated a statistically significant ordinal interaction effect between the group and timing of the assessment in effective teaching behaviors, indicating a relative weak association between the independent and dependent variables. Specifically, the Traditional group showed a higher increase in their effective teaching behavior scores from the pre- to post-assessment than did the Non-Traditional group.

The student-teachers of the Non-Traditional group demonstrated a higher mean score than the student-teachers of the Traditional group at the preassessment phase but demonstrated only slight progress after the peer coaching intervention. Different performance among the student-teachers in the study might be attributed to the assistance and advice provided by their college instructor, master teachers and university supervisors rather than the peer coaching intervention itself. There was no way to control for differences in the quality of feedback provided by the many different master teachers. Nor was it possible to control the qualitative differences of the feedback from different university supervisors. Withholding feedback from master teachers and university supervisors during the student teaching semester would
have been unethical and therefore must be noted as a potential confounding variable in this study.

From a study of non-traditional teachers' personal learning styles and teaching styles, Harrison (1997) found that teachers' prior education and experiences influenced how they taught. In this study, the student-teachers in the Non-Traditional group had more working experience than the student-teachers in the Traditional group. Additionally, seventeen out of 20 student-teachers (85%) in the Non-Traditional group were above 31 years of age while six out of 16 (37.6%) were above 31 years in the Traditional group. Perhaps this work experience along with greater maturity due to age influenced the Non-Traditional students' "buy in" or commitment to the peer coaching process. Perhaps, they felt less need for feedback and thus put forth less effort in the areas that were specifically targeted in the peer coaching sessions. Another factor that may have contributed to this finding was differences in academic standing. Six of the student-teachers in the Traditional group were graduate students; there were no graduate students in the Non-Traditional group.

**Hypothesis Two**

Hypothesis two dealt with the effects of peer coaching upon student-teachers' reduction of ineffective teaching behaviors. An analysis of observation data indicated: (a) There was no statistically significant interaction effect between the two groups of student-teachers; (b) There was no statistically significant main effect difference for pre- and post-assessment on ineffective teaching behaviors, and (c) There was no statistically significant
main effect difference between the Traditional and the Non-Traditional group. Student-teachers in both groups yielded almost the same mean score at the preassessment phrase. Although not statistically significant, the student-teachers in the Non-Traditional group showed a larger decrease in ineffective teaching behavior scores than the student-teachers in the Traditional group after completion of the peer coaching intervention. This would indicate the student-teachers in the Non-Traditional group performed somewhat better in decreasing their ineffective teaching behaviors than the student-teachers in the Traditional group. Perhaps, the student-teachers in the Non-Traditional group focused on reducing their ineffective teaching behaviors more than the student-teachers in the Traditional group. Their reduction of ineffective teaching behaviors also might be due to the influence of the college instructor, university supervisors, and the master teachers who had interactions with the student-teachers within the period of peer coaching intervention.

Hypothesis Three

Hypothesis three dealt with the effects of peer coaching upon student-teachers' attitude toward the process. An analysis of data between the pre- and post-survey scores on the attitude questionnaire for the 36 student-teachers indicated there was neither a statistically significant interaction effect nor main effects. In general, both groups had moderately favorable attitudes toward peer coaching before and after the peer coaching intervention. Perhaps, the intervention period was too short to cause much attitude change.
Descriptive Analysis of Attitude

The frequency of responses to open-ended attitude questions was analyzed. The three questions investigated the advantages, disadvantages and purposes of peer coaching. The frequency of most responses was low in number. Before peer coaching, more Traditional student-teachers (58.8%) than the Non-Traditional student-teachers (35%) indicated they didn’t know any advantages of peer coaching. On completion of the peer coaching process, the number of student-teachers in the Non-Traditional group who indicated not knowing any advantages of peer coaching knowledge decreased to 12%; everyone in the Traditional group identified some knowledge of peer coaching.

Traditional and Non-Traditional student-teachers’ beliefs in sharing ideas and strategies from peer coaching increased on completion of the intervention. A few of the student-teachers from the Traditional group predicted peer coaching would benefit students or improve school programs. However, no one from the Non-Traditional group listed this as an advantage after peer coaching. Perhaps there wasn’t enough time to notice student or school program improvement specifically related to the peer coaching process. The student-teachers from the Non-Traditional group appeared to be more focused on their own individual teaching behaviors.

Before peer coaching, 62.5% of the student-teachers in the Traditional group and 32% of the student-teachers in the Non-Traditional group disclosed that they didn’t know any disadvantages of peer coaching. After the peer coaching intervention, no one in
either group responded this way. Perhaps actual participation in the peer coaching process influenced students’ awareness of disadvantages. The main concern for both groups was the time consuming nature of peer coaching. More student-teachers identified the disadvantages of peer coaching after the intervention.

Before the intervention, most student-teachers expressed they had no knowledge of peer coaching or were undecided about the purpose for peer coaching. After the process, the percentage of responses in this category dropped. “Improving teaching skills” and “sharing ideas or strategies with peers” were the most frequently reported purposes for using peer coaching by the two groups. More student-teachers in the Traditional group reported improving teaching skills as a purpose of peer coaching after the intervention (from 6.7% to 41.2%), whereas the student-teachers in the Non-Traditional group remained the same from preassessment to postassessment in this category. The student-teachers in both groups increased the frequency of identifying sharing ideas or strategies with peers as a purpose of peer coaching.

The results from the open-ended questions were different than the results from the survey scores on the attitude questionnaire. Both groups of student-teachers expressed a change of attitude regarding the advantages, disadvantages, and purposes for peer coaching. Neither group showed a change of attitude when the means of the pre- and post-survey were compared.
Discussion of Challenges and Limitations

In spite of the positive outcomes that emerged in this study, there were problems and limitations encountered in the process of implementing the peer coaching procedures that should be considered when interpreting the data. This study yielded data on the effect of peer coaching over a limited period of four weeks during the 12-week summer student teaching. This compressed schedule was not ideal. Besides classroom teaching, student-teachers had to attend several university seminars with pre-determined topics (e.g., filling out school district applications, completing university placement files). Therefore, the time available for student-teachers to participate in the peer coaching process was limited to four weeks. During the 4-week period, student-teachers had to observe each other three times as a coach and be observed three times as a coachee. Peer coaching training was conducted in two sessions within one week. The student-teachers felt the time was insufficient. Peer coaching should be taught with modeling, guided practice, and frequent support by the trainer. The entire peer coaching process should be practiced before actual implementation.

Distance between schools was also a problem for the student-teachers because some of them had to travel quite a distance to work with their peer coaching partner. Most student-teachers had to take over full responsibility of the class during their internship and were expected to remain at their home classrooms. Student-teachers found it very difficult to arrange time to participate in the various procedures of peer coaching.
This study did not evaluate the effectiveness of peer coaching related to implementing a particular educational program with public school students. Nor did it measure the learning outcomes of school-aged students. This investigation did not include a control group for comparison because of the limited number of study participants.

Since this study included only student-teachers, the findings should not be generalized to other practica preservice students, other non-traditional students, or other alternative teacher certification programs. Also, the results of this study should not be generalized to individuals who already are licensed to teach. Caution should be exercised in generalizing the findings from this study to student-teachers at other universities or to student-teachers that enroll in longer or shorter student teaching experiences. Finally, the results should not be generalized to preservice program that use observation criteria that differ from the Florida Performance Measurement System.

Conclusions

There was a statistically significant differential change between the Traditional and Non-Traditional student-teachers from pre- to post-assessment scores on effective teaching behaviors. However, there is no statistically significant differential change in decreasing ineffective teaching behaviors, or attitudes toward peer coaching between the two groups. Due to other variables of the study such as the professional input of the college instructor, the university supervisors, and the classroom master teachers. The
significant increase of effective teaching behaviors of the Traditional student-teachers may not be the result of peer coaching. In general, the Traditional and Non-Traditional student-teachers indicated similar attitudes toward peer coaching after participation in the process. Student-teachers of both groups recognized more advantages after the intervention although at the same time noticed more disadvantages in the process of peer coaching. Regardless of the difficulties experienced, they did experience some benefits which might help them in their teaching profession.

Discussion of the Practical Implications

The peer coaching process (i.e., pre-observation, conference, observation, and post-observation conference) can be implemented among preservice student-teachers. Peer coaching is inhibited by difficulties in scheduling; thus, attention must focus on ways to make scheduling more manageable. Peer coaching may be easier to implement in a co-teaching classroom or among students who are placed at the same school. Peer coaching requires support from the principal and classroom master teachers. Thus, workshops especially for these personnel may strengthen the support for peer coaching among preservice and inservice teachers.

If time had allowed, the researcher would have spent more time training the student teachers the peer coaching procedures. Actual demonstrations of the peer coaching process and practice of coaching strategies followed with discussions would be very useful. The post-observation conference was an important process because it allowed the student-teachers to set appropriate goals for future
lessons. Student-teachers need to reflect on their teaching continuously. Discussions between the coach and coachee during the post-observation conference may be more meaningful than self-evaluation alone. The coachee will receive input from the coach and through discussions together, both may create more strategies for future improvement. With the support of each other, their goals may be more easily accomplished.

Peer coaching provides teacher educators with possible alternatives to current practice of relying on limited university supervision. The data from this study and previous research indicate that peer coaching is perhaps one effective way to transfer the preservice experience into useful application for the classroom (Joyce & Shower, 1982, 1983; Showers, 1984; Wynn, 1988). The interaction between the preservice teachers allows them the opportunity to engage in professional dialogue concerning both children and teaching. Peer coaching enables preservice teachers to discuss strategies, solve problems, assess their effectiveness, and reflect upon their professional development.

The process of peer coaching has been highly recommended by researchers to increase teacher effectiveness and promote collaboration among teachers. Perhaps peer coaching has the potential to help build connections between special education and general education teachers.

Suggestions for Further Research

Future research is needed to determine the effectiveness of using peer coaching strategies with non-traditional student-
teachers. A control group study would provide more definitive conclusions related to the appropriateness of using peer coaching with non-traditional students.

Future research is needed to evaluate the effectiveness of peer coaching when implemented for longer period of time. Additionally, future research should investigate various method for training preservice students to use peer coaching. Increasing the sample size in future peer coaching also is important. The influence of sample size on the power of statistical tests is critical (Lunsford & Lunsford, 1995). The larger the sample size, the greater the statistical power with a good research design. In the present study, the number of participants was relatively small.

Future research that explores the specific interactions among paired preservice teachers would add to the existing peer coaching literature. Analysis of the particular interactions that are most likely to result in improved teaching behaviors are needed. The quality of peer coaching interactions should be investigated because successful outcomes depend on effective interactions.

Criteria for the success of non-traditional teachers in aspects other than demonstrating effective teaching behaviors should be examined. For example, the effect of peer coaching on implementing new educational programs and/or the effect of peer coaching on the performance of school-aged students would add to existing peer coaching literature.

Future studies should place more emphasis on how to be an effective peer coach and the specific processes involved in coaching need further attention. Collegial relationships are very important
especially given recent trends for increased collaboration among special and general education teachers. Therefore, future peer coaching research should focus on how to coach others in positive ways that will increase strong interpersonal relationships among teachers. Simply going through the motions of peer coaching may not result in genuine collegiality.

Additional research related to the use of peer coaching among non-traditional certified teachers would be helpful since more alternative teacher certification models are being used in the United States (Hawley, 1990). Furthermore, follow-up research on peer coaching among non-traditionally certified teachers in the school settings in comparison to a control group of other teachers would provide more information about the performance of non-traditional teachers. Shannon (1990) thought that supervising mature adults in the alternative program was difficult because of a false sense of confidence in them. Shannon suggested that “The candidates in the alternative certification program not only need cooperating teachers who will reinforce the attitudes and behaviors learned in the college classroom but ones who understand the need to provide them strong direction and support” (p. 41). It is hoped that integrating opportunities for collaboration in preservice traditional and non-traditional teacher preparation programs will increase the potential for continued collaboration during the induction year and beyond.
APPENDIX A

CONSENT FORM
Dear Student teachers of ESP 490

I, Kit-hung Lee, doctoral candidate in the Department of Special Education at the University of Nevada, Las Vegas, am planning to conduct a research study involving the implementation of peer coaching among student teachers.

The purpose of the proposed study is to investigate the effects of preservice peer coaching on teaching skills and attitude toward peer coaching.

I sincerely invite you to participate in my research. There will be no monetary compensation for participating in this study, but I anticipate several benefits as a result of your affiliation with this research. You will acquire peer coaching skills and contribute to the literature related to the effects of peer coaching among preservice teachers.

I am requesting that you allow me to analyze the data from your field based observations and the survey questionnaire. Your anonymity will be protected with regard to the use of all data collected in this study. Questionnaires regarding your attitude toward the approach will also be completed anonymously.

If you have any questions about this research, you may contact me at (702) 895-1111. If you have any questions about the rights of research subjects, feel free to contact the UNLV Office of Sponsored Programs at (702) 895-1357.

Your participation in this research is voluntary and you may withdraw from participation at any time. If you agree to participate in this study, you will receive a copy of this form. Thank you for your time and consideration.

Sincerely,

Kit-hung Lee, Doctoral Candidate
Researcher

***********************************************************************************************

Please sign below to indicate your willingness to participate in this study.

Yes, I would like to participate in this study. I have been advised that I may discontinue my participation at anytime.

_________________________________________  ________________________________
Student Teacher Signature               Date

_________________________________________  ________________________________
Researcher Signature                   Date

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
APPENDIX B

FLORIDA PERFORMANCE MEASUREMENT SYSTEM (FPMS)
### BEHAVIORS INCLUDED ON SUMMATIVE OBSERVATION INSTRUMENT

#### Effective Teaching Indicators

<table>
<thead>
<tr>
<th>Instructional Organization and Development</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Begins instruction promptly</td>
<td></td>
</tr>
<tr>
<td>2. Handles materials in an orderly manner</td>
<td></td>
</tr>
<tr>
<td>3. Oriented students to classwork/maintains academic focus</td>
<td></td>
</tr>
<tr>
<td>4. Conducts beginning/ending review</td>
<td></td>
</tr>
</tbody>
</table>
| 5. Questions: academic comprehension/lesson development  
  - Asks single factual questions  
  - Asks questions that require analysis/reasons |   |
| 6. Acknowledges response/simplifies/gives feedback |   |
| 7. Provides for practice                   |   |
| 9. Clearly identifies and checks comprehension of homework, assigns/assigns homework, and gives feedback |   |
| 10. Circulates and assists students        |   |

#### Ineffective Teaching Indicators

<table>
<thead>
<tr>
<th>Instructional Organization and Development</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Delays</td>
<td></td>
</tr>
<tr>
<td>2. Does not organize or handle materials systematically</td>
<td></td>
</tr>
<tr>
<td>3. Allows talk/activity unrelated to subject</td>
<td></td>
</tr>
<tr>
<td>4. Poses multiple questions asked as one, multiple responses</td>
<td></td>
</tr>
<tr>
<td>5. Poses non-academic questions/non-academic procedural questions</td>
<td></td>
</tr>
<tr>
<td>6. Ignores student or response, expresses sarcasm, disgust, or harshness</td>
<td></td>
</tr>
<tr>
<td>7. Uses general, non-specific praise</td>
<td></td>
</tr>
<tr>
<td>8. Extends discourse, changes topic w/o practice</td>
<td></td>
</tr>
<tr>
<td>9. Gives Inadequate directions/no feedback</td>
<td></td>
</tr>
<tr>
<td>10. Remains at desk/circulates inadequately</td>
<td></td>
</tr>
</tbody>
</table>

#### Presentation of Subject Matter

<table>
<thead>
<tr>
<th>Instructional Organization and Development</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>11. Treats concept-definition/attributes/examples/non-examples</td>
<td></td>
</tr>
<tr>
<td>12. Discusses cause-effect/uses linking words-applies law or principle</td>
<td></td>
</tr>
<tr>
<td>13. States and applies academic rule</td>
<td></td>
</tr>
<tr>
<td>14. Develops criteria and evidence for value judgment</td>
<td></td>
</tr>
</tbody>
</table>

#### Communication-Verbal and Non-Verbal

<table>
<thead>
<tr>
<th>Instructional Organization and Development</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>15. Emphasizes important points</td>
<td></td>
</tr>
<tr>
<td>16. Expresses enthusiasm verbally/challenges students</td>
<td></td>
</tr>
<tr>
<td>17. Uses body behavior that shows interest-smiles, gestures</td>
<td></td>
</tr>
</tbody>
</table>

#### Management of Student Conduct

<table>
<thead>
<tr>
<th>Instructional Organization and Development</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>18. Stops misconduct</td>
<td></td>
</tr>
<tr>
<td>19. Maintains instructional momentum</td>
<td></td>
</tr>
</tbody>
</table>

#### Presentation of Subject Matter

<table>
<thead>
<tr>
<th>Instructional Organization and Development</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>11. Gives definition or examples only</td>
<td></td>
</tr>
<tr>
<td>12. Discusses either cause or effect only/uses no linking word(s)</td>
<td></td>
</tr>
<tr>
<td>13. Does not state or does not apply academic rule</td>
<td></td>
</tr>
<tr>
<td>14. States value judgment with no criteria evidence</td>
<td></td>
</tr>
</tbody>
</table>

#### Communication-Verbal and Non-Verbal

<table>
<thead>
<tr>
<th>Instructional Organization and Development</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>15. Uses vague/scrabbled discourse</td>
<td></td>
</tr>
<tr>
<td>16. Uses loud-grating, high pitches, monotone, inaudible talk</td>
<td></td>
</tr>
<tr>
<td>17. Frowns, deadpan, or lethargic</td>
<td></td>
</tr>
</tbody>
</table>

#### Management of Student Conduct

<table>
<thead>
<tr>
<th>Instructional Organization and Development</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>18. Delays dealing/doesn't stop misconduct/destroys punically</td>
<td></td>
</tr>
<tr>
<td>19. Loses momentum-fragments non-academic directions, overwells</td>
<td></td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
APPENDIX C

ATTITUDE SURVEY
ATTITUDE SURVEY

Peer coaching is a process whereby teachers help other teachers through collegial interaction (Showers, 1985).

A. Please respond to the following questions by circling your best response.
   (5 = strongly agree; 4 = agree; 3 = neutral; 2 = disagree; 1 = strongly disagree)

1. Peer coaching involves bringing together people with different knowledge, skills and attitudes to work as a team.
   5 4 3 2 1

2. Peer coaching is a time consuming event but worth the time.
   5 4 3 2 1

3. Engaging in face-to-face interaction, we help each other solve our problems.
   5 4 3 2 1

4. Peer coaching among teachers can help improve school programs.
   5 4 3 2 1

5. Teachers who pool their expertise and resources among themselves will strengthen their teaching skills.
   5 4 3 2 1

6. Teachers who observe each other in their classrooms and share their observations and reflections with each other will improve their teaching skills.
   5 4 3 2 1

7. Teachers who frequently discuss instructional methods and teaching skills with each other will increase their students' learning.
   5 4 3 2 1

8. Working together with my peers will help me master new instructional methods or strategies.
   5 4 3 2 1

9. My peer coaching skills are strong.
   5 4 3 2 1

10. I plan to use peer coaching when I'm hired as a teacher.
    5 4 3 2 1

B. Please answer the following questions according to what you know:
   (Please continue writing at the back of the page if necessary)

1. What are the advantages of peer coaching?

2. What are the disadvantages of peer coaching?

3. For what purposes would you use peer coaching?
APPENDIX D

SCHEDULE FOR IMPLEMENTATION OF THE STUDY
PEER COACHING SCHEDULES FOR STUDENT TEACHERS  
University of Nevada, Las Vegas  
(Summer, 1999)

<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(5/17-5/21)</td>
<td>Orientation/Attitude Survey</td>
</tr>
<tr>
<td>2</td>
<td>(5/24-5/28)</td>
<td>University Supervisors Training</td>
</tr>
<tr>
<td>3</td>
<td>(5/31-6/4)</td>
<td>Preassessment before Peer Coaching</td>
</tr>
<tr>
<td>4</td>
<td>(6/7-6/11)</td>
<td>Preassessment before Peer Coaching</td>
</tr>
<tr>
<td>5</td>
<td>(6/14-6/18)</td>
<td>Peer Coaching Training for Student Teachers</td>
</tr>
<tr>
<td>6</td>
<td>(6/21-6/25)</td>
<td>Peer Coaching Observations</td>
</tr>
<tr>
<td>7</td>
<td>(6/28-7/2)</td>
<td>Peer Coaching Observations</td>
</tr>
<tr>
<td>8</td>
<td>(7/5-7/9)</td>
<td>Peer Coaching Observations</td>
</tr>
<tr>
<td>9</td>
<td>(7/12-7/16)</td>
<td>Peer Coaching Observations</td>
</tr>
<tr>
<td>10</td>
<td>(7/19-7/23)</td>
<td>Postassessment after Peer Coaching</td>
</tr>
<tr>
<td>11</td>
<td>(7/26-7/30)</td>
<td>Postassessment after Peer Coaching</td>
</tr>
<tr>
<td>12</td>
<td>(8/2-8/6)</td>
<td>Attitude Survey/Conclusions</td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
APPENDIX E

SCALE FOR COACHING INSTRUCTIONAL EFFECTIVENESS (SCIE)
Permission to Use Copyrighted Material
University of Nevada, Las Vegas

I, Jan E. Hasbrouck, Ph.D., holder of copyrighted material entitled Protocol for Scale for Coaching Instructional Effectiveness (SCIE), Version 5/18/95 authored by Jan E. Hasbrouck, Ph.D., and Richard I. Parker, Ph.D. and originally published in Scale for Coaching Instructional Effectiveness (SCIE) Training Manual, 1995 hereby give permission for the author to use the above described material in total or in part for inclusion in a doctoral dissertation at the University of Nevada, Las Vegas.

I also agree that the author may execute the standard contract with University Microfilms, Inc. for microform reproduction of the completed dissertation, including the materials to which I hold copyright.

Jan E. Hasbrouck, Ph.D.  5/26/00
Signature  Date

Jan E. Hasbrouck, Ph.D.  Assistant Professor
Name (typed)  Title
D.A.R.C.Y. Research Group, Department of Educational Psychology
Texas A&M University
Representing

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
PROTOCOL FOR

SCALE FOR COACHING INSTRUCTIONAL EFFECTIVENESS (SCIE)
# Scale for Coaching Instructional Effectiveness (SCIE)


<table>
<thead>
<tr>
<th>Date: <strong><strong><strong>/</strong>__/</strong></strong></th>
<th>Start Time: _________</th>
<th>Stop Time: _________</th>
<th>CODE #: ________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher: ______________</td>
<td>Observer/Rater: __________</td>
<td>Grade/Class: _______________</td>
<td>Number of students in instructional group: ______________</td>
</tr>
</tbody>
</table>

**Lesson Content:**

**KEY:**

- **YES**: Good/excellent quality; high skill; occurs ALL or ALMOST ALL of lesson; with ALL/ALMOST ALL students.
- **NI**: Needs Improvement; Not implemented & should have been; low quality/skill; SMALL part of lesson; only FEW students.
- **NIOb**: Not observed; not applicable; cannot judge. Not implemented but not necessary, A NEUTRAL rating.

## A. PLANNING & ORGANIZATION

### A1. Lesson Planning/Preparation

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>NI</th>
<th>NIOb</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>• T. selects APPROPRIATE objective(s)/purpose for lesson (amount &amp; quality).</td>
<td>√</td>
<td>√-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>• T. PREPARES &amp; ORGANIZES materials for lesson parts.</td>
<td>√</td>
<td>√-</td>
</tr>
<tr>
<td>c</td>
<td>• T. LOGICALLY ORGANIZES lesson PRESENTATION (SEQUENCE/ORDER of lesson parts logically linked and enhance understanding).</td>
<td>√</td>
<td>√-</td>
</tr>
</tbody>
</table>

### A2. Quality/Match of Curriculum Materials/Media

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>NI</th>
<th>NIOb</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>• T. uses GOOD QUALITY materials/media.</td>
<td>√</td>
<td>√-</td>
</tr>
<tr>
<td>b</td>
<td>• T. USES materials necessary or beneficial to learning/materials ENHANCE learning.</td>
<td>+</td>
<td>√-</td>
</tr>
</tbody>
</table>

## B. INSTRUCTION

### B1. Starting Lesson

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>NI</th>
<th>NIOb</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>• T. starts lesson PROMPTLY &amp; PURPOSEFULLY (focused on objectives/purpose).</td>
<td>+</td>
<td>√</td>
</tr>
<tr>
<td>b</td>
<td>• T. skillfully GAINS STUDENTS' ATTENTION before beginning. (+ = ALL or ALMOST ALL students attending before starting; √ = MOST attending)</td>
<td>√</td>
<td>√-</td>
</tr>
<tr>
<td>c</td>
<td>• T. helps students UNDERSTAND PURPOSE of lesson.</td>
<td>√</td>
<td>√-</td>
</tr>
<tr>
<td>d</td>
<td>• T. &quot;LINKS&quot; prior knowledge, previously learned skills to current lesson (at least some mention made of how this lesson relates to previous learning, if appropriate).</td>
<td>√</td>
<td>√-</td>
</tr>
</tbody>
</table>

### B2. Communication

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>NI</th>
<th>NIOb</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>• T. uses ACCURATE &amp; APPROPRIATE LANGUAGE in speaking &amp; writing (syntax/grammar, vocabulary, handwriting &amp; spelling).</td>
<td>√</td>
<td>√-</td>
</tr>
<tr>
<td>b</td>
<td>• T. uses voice at an APPROPRIATE VOLUME/TONE for communication and instruction.</td>
<td>√</td>
<td>√-</td>
</tr>
</tbody>
</table>
### B3. Active Learning

<table>
<thead>
<tr>
<th>a</th>
<th>T. provides students with opportunities to ACTIVELY PARTICIPATE in learning tasks (talking, answering/asking questions, reading, writing, etc., minimal time spent just listening).</th>
<th>Yes</th>
<th>No</th>
<th>Not Ob</th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>T. DISTRIBUTES opportunities to participate among students.</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>c</td>
<td>T. keeps students FOCUSED &amp; ENGAGED in activity ON-TASK (ALL or ALMOST ALL students for ALL or ALMOST ALL of lesson with skillful redirecting as necessary)</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

### B4. Lesson Pacing/Focus

<table>
<thead>
<tr>
<th>a</th>
<th>T. uses REASONABLE PACE (not rushed or dragging).</th>
<th>Yes</th>
<th>No</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>T. MAINTAINS FOCUS on objectives/purpose; stays &quot;on track.&quot; (ALL or ALMOST ALL of lesson; V = MOST of lesson).</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>c</td>
<td>T. spends reasonable &amp; appropriate AMOUNT OF TIME on lesson parts</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

### B5. Giving Directions

<table>
<thead>
<tr>
<th>a</th>
<th>T. skilfully GAINS STUDENTS’ ATTENTION before giving directions (ALL or ALMOST ALL students attending; V = MOST students attending).</th>
<th>Yes</th>
<th>No</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>T. skilfully MAINTAINS STUDENTS’ ATTENTION while giving directions. (ALL or ALMOST ALL students' attention maintained; V = MOST students).</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>c</td>
<td>T. gives directions CLEARLY (appropriate difficulty/length to ages &amp; skill levels) &amp; COMPLETELY (essential parts of the directions given BEFORE task started).</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>d</td>
<td>T. CHECKS FOR UNDERSTANDING before beginning task.</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

### B6. Presenting New Information/Skill/Strategy; Review, Practice

<table>
<thead>
<tr>
<th>a</th>
<th>T. skilfully PRESENTS a sufficient amount of relevant and helpful EXAMPLES or EXPLANATIONS of new information such as concepts, rules, facts, principles, operations (appropriate to lesson objectives &amp; students' ages, developmental &amp; skill levels).</th>
<th>Yes</th>
<th>No</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>T. MODELS or DEMONSTRATES as necessary new or unmastered skill/strategy (well-timed, well-paced, of reasonable duration to ensure learning).</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>c</td>
<td>T. provides GUIDED PRACTICE as necessary to help students learn skill/strategy (well-timed, well-paced, of reasonable duration to ensure learning).</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>d</td>
<td>T. MONITORS and PROVIDES FEEDBACK during independent practice.</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>e</td>
<td>T. presents ACCURATE information (e.g., word definitions, statements of facts, explanations of concepts, etc.).</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>f</td>
<td>T. uses a VARIETY of presentation &amp; response modes &amp; activities (appropriate to lesson objectives and students' ages, developmental and skill levels).</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

### B7. Monitoring Learning/ Responsive Lesson Adjustment

<table>
<thead>
<tr>
<th>a</th>
<th>T. PROMPTLY CORRECTS or CLARIFIES errors with patience &amp; encouragement.</th>
<th>Yes</th>
<th>No</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>T. PROMPTLY and APPROPRIATELY ACKNOWLEDGES correct responses.</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>c</td>
<td>T. encourages students to MONITOR accuracy &amp; quality of their own work.</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>d</td>
<td>T. ADJUSTS lesson based on student responses (provides extra practice or examples; slows or speeds pace; modifies task/lesson)</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>
### B8. Questioning Techniques

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>+</td>
<td>✓</td>
</tr>
<tr>
<td>b</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>c</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**Description:**
- T. uses questions which FOCUS on KEY ELEMENTS in lesson.
- T. allows appropriate WAIT TIME after asking a question.
- T. "STAYS WITH" or RETURNS TO student when initial response incorrect.

### B9. Lesson Closure

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>b</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>c</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**Description:**
- T. uses APPROPRIATE CLOSURE activities.
- T. spends REASONABLE AMOUNT of TIME in closure.
- T. INVOLVES STUDENTS in closure activities when appropriate.

### C. CLASSROOM MANAGEMENT

#### C1. Rules: Understood; Consistently & Fairly Applied

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>b</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**Description:**
- T. USES rules in teaching; REMINDS students of rules as necessary.
- T. ENFORCES rules APPROPRIATELY, CONSISTENTLY & FAIRLY.

#### C2. Management Routines/Procedures

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>b</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>c</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>d</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**Description:**
- T. uses PROACTIVE, PREVENTATIVE TECHNIQUES to minimize lesson interferences.
- T. has effective ROUTINES/PROCEDURES to MINIMIZE DISRUPTIONS TO LEARNING.
- T. ensures SHORT, SMOOTH TRANSITIONS between tasks & lessons.
- T. PHYSICALLY ARRANGES CLASSROOM to minimize distractions & focus on learning.

#### C3. Positive Reinforcement/ Motivation

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>b</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>c</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>d</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**Description:**
- T. is POSITIVE, ENCOURAGING (tries to "CATCH students in the ACT OF BEING GOOD").
- T. uses SPECIFIC, DESCRIPTIVE age/developmentally appropriate praise CONTINGENT on good/correct behavior.
- T. demonstrates VALUE OF and/or sincere INTEREST in lesson content.
- T. uses mostly SOCIAL REINFORCERS (smiles, pats/handshakes, encouraging remarks, non-verbal signals, etc.); token/tangible reinforcements (stickers, candy, etc.) used appropriately & only as necessary.
C4. Off-Task, Negative Behaviors Addressed

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>b</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>c</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>d</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

DEBRIEFING CHECKLIST

DATE/TIME of observation: __________ DATE/TIME of debriefing: __________

GOAL(s) TARGETED FOR IMPROVEMENT (list SCIE items by number):

Did you as a coach...

<table>
<thead>
<tr>
<th>IMPROVEMENT NEEDED</th>
<th>ADEQUATE</th>
<th>VERY GOOD</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. accurately CODE the lesson?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. USE SCIE DESCRIPTORS to interpret results during debriefing?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. help set and maintain a POSITIVE TONE?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. ENCOURAGE the observed TEACHER to EXPRESS ideas/opinions?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. equally SHARE talk time?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. use ACTIVE LISTENING procedures?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. help LOGICALLY PRIORITIZE a target area for setting improvement goal(s)?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. uncritically encourage BRAINSTORMING of IDEAS for improvement?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. fairly EVALUATE ideas for improvement and help the observed teacher make a SELECTION?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. help with LOGISTICS (scheduling next observation; assigning tasks, completing forms, etc.)?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**SUMMARY FORM**

Scale for Coaching Instructional Effectiveness (SCIE)  

<table>
<thead>
<tr>
<th>Date:</th>
<th>Start Time:</th>
<th>Stop Time:</th>
<th>CODE #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td></td>
<td>Observer/Rater:</td>
<td></td>
</tr>
<tr>
<td>Grade/Class:</td>
<td></td>
<td>Number of students in instructional group:</td>
<td></td>
</tr>
<tr>
<td>Lesson Content:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SCORING:**  
+ = 2  √ = 1  √ = 0  NtOb = no score

---

### A. PLANNING & ORGANIZATION

<table>
<thead>
<tr>
<th>Score</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A1. Lesson Planning/Preparation 4 possible
A2. Quality/Match of Curriculum Materials/Media 3 possible

**COMMENTS:**

---

### B. INSTRUCTION

<table>
<thead>
<tr>
<th>Score</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B1. Starting Lesson 6 possible
B2. Communication 2 possible
B3. Active Learning 5 possible
B4. Lesson Pacing/Focus 5 possible
B5. Giving Directions 7 possible
B6. Presenting New Information/Skill/Strategy 9 possible
B7. Monitoring Learning/Responsive Lesson Adjustment 6 possible
B8. Questioning Techniques 4 possible
B9. Lesson Closure 3 possible

**COMMENTS:**

---

### C. CLASSROOM MANAGEMENT

<table>
<thead>
<tr>
<th>Score</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

C1. Rules: Understood: Consistently & Fairly Applied 3 possible
C2. Management Routines/Procedures 7 possible
C3. Positive Reinforcement/Motivation 7 possible
C4. Off-Task, Negative Behaviors Addressed 7 possible

**COMMENTS:**

---

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
APPENDIX F

PEER COACHING FORMS FOR PRE-CONFERENCE
(Session 1-3)
Pre-Conference

Date: _______________   Name of Coach: __________________________

Name of Coachee: __________________________

School: __________________________________________

Please ✓ the following:

☑ 1st Coaching Session
☐ 2nd Coaching Session
☐ 3rd Coaching Session

Teaching behaviors to increase (From Summative Observation Form):
1. __________________________________________________________
2. __________________________________________________________
3. __________________________________________________________

Teaching behaviors to decrease (From Summative Observation Form):
1. __________________________________________________________
2. __________________________________________________________
3. __________________________________________________________

Other target behaviors (Not on Summative Observation Form):
1. __________________________________________________________
2. __________________________________________________________
3. __________________________________________________________

Strategies for meeting these objectives:
1. __________________________________________________________
2. __________________________________________________________
3. __________________________________________________________

(The Summative Observation Form is from the Florida Performance Measurement System)
Pre-Conference

Date: ___________________ Name of Coach: ___________________
Name of Coachee: ___________________
School: __________________________________________

Please ✓ the following:

☐ 1st Coaching Session
✓ 2nd Coaching Session
☐ 3rd Coaching Session

Teaching behaviors to increase (From Summative Observation Form):
1. _______________________________________________________
2. _______________________________________________________
3. _______________________________________________________

Teaching behaviors to decrease (From Summative Observation Form):
1. _______________________________________________________
2. _______________________________________________________
3. _______________________________________________________

Other target behaviors (From SCIE Forms):
1. _______________________________________________________
2. _______________________________________________________
3. _______________________________________________________
4. _______________________________________________________
5. _______________________________________________________

Strategies for meeting these objectives:
1. _______________________________________________________
2. _______________________________________________________
3. _______________________________________________________

(SCIE is Scale for Coaching Instructional Effectiveness developed by Dr. J. Hasbrouck &
Dr. R. Parker of Texas A&M University, 1995)
Pre-Conference

Date: _____________________  Name of Coach: _____________________
Name of Coachee: _____________________

School: ______________________________________________

Please ✓ the following:
☐ 1st Coaching Session
☐ 2nd Coaching Session
✓ 3rd Coaching Session

Teaching behaviors to increase (From Summative Observation Form):
1. _______________________________________________________
2. _______________________________________________________
3. _______________________________________________________

Teaching behaviors to decrease (From Summative Observation Form):
1. _______________________________________________________
2. _______________________________________________________
3. _______________________________________________________

Other target behaviors (From SCIE Forms):
1. _______________________________________________________
2. _______________________________________________________
3. _______________________________________________________
4. _______________________________________________________
5. _______________________________________________________

Strategies for meeting these objectives:
1. _______________________________________________________
2. _______________________________________________________
3. _______________________________________________________

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
APPENDIX G

PEER COACHING FORMS FOR OBSERVATION
(Session 1-3)
Observation

Date: ________________  Name of Coach: __________________________
Name of Coachee: __________________________
School: ____________________________________________

Please ✓ the following:
   ✓ 1st Coaching Session
   □ 2nd Coaching Session
   □ 3rd Coaching Session

Type of lesson: __________________________________________
Student level: __________________________ Number of students: __________________________

Teaching behaviors to increase (From Summative Observation Form):
1. ______________________________________________________
2. ______________________________________________________
3. ______________________________________________________

Teaching behaviors to decrease (From Summative Observation Form):
1. ______________________________________________________
2. ______________________________________________________
3. ______________________________________________________

Other target behaviors (Not on Summative Observation Form):
1. ______________________________________________________
2. ______________________________________________________
3. ______________________________________________________

Strength(s) of the lesson:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Observation

Date: ___________________  Name of Coach: ___________________
Name of Coachee: ___________________

School: _____________________________________________

Please ✓ the following:
- ☐ 1st Coaching Session
- ☑ 2nd Coaching Session
- ☐ 3rd Coaching Session

Type of lesson: ____________________________
Student level: ______________  Number of students: ______________

Teaching behaviors to increase (From Summative Observation Form):
1. _________________________________________________________
2. _________________________________________________________
3. _________________________________________________________

Teaching behaviors to decrease (From Summative Observation Form):
1. _________________________________________________________
2. _________________________________________________________
3. _________________________________________________________

Other target behaviors (From SCIE Forms):
1. _________________________________________________________
2. _________________________________________________________
3. _________________________________________________________
4. _________________________________________________________
5. _________________________________________________________

Strength(s) of the lesson:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Observation

Date: ___________________  Name of Coach: ____________________
Name of Coachee: ____________________
School: ____________________________________________

Please  □  1st Coaching Session
       □  2nd Coaching Session
       ☑  3rd Coaching Session

Type of lesson: ____________________________________________
Student level: ________________ Number of students: ________________

Teaching behaviors to increase (From Summative Observation Form):
1. __________________________________________________________
2. __________________________________________________________
3. __________________________________________________________

Teaching behaviors to decrease (From Summative Observation Form):
1. __________________________________________________________
2. __________________________________________________________
3. __________________________________________________________

Other target behaviors (From SCIE Forms):
1. __________________________________________________________
2. __________________________________________________________
3. __________________________________________________________
4. __________________________________________________________
5. __________________________________________________________

Strength(s) of the lesson:
__________________________________________________________
__________________________________________________________
__________________________________________________________
__________________________________________________________
__________________________________________________________
__________________________________________________________
__________________________________________________________
__________________________________________________________
__________________________________________________________
APPENDIX H

PEER COACHING FORMS FOR POST-CONFERENCE
(Session 1-3)
Post-Conference

Date: ___________________________  Name of Coach: ___________________________

Name of Coachee: __________________________________________________________

School: __________________________________________________________________

Please ✓ the following:

✓ 1st Coaching Session
☐ 2nd Coaching Session
☐ 3rd Coaching Session

Teaching behaviors increased (From Summative Observation Form):
1. _________________________________________________________
2. _________________________________________________________
3. _________________________________________________________

Teaching behaviors decreased (From Summative Observation Form):
1. _________________________________________________________
2. _________________________________________________________
3. _________________________________________________________

Other target behaviors (Not on Summative Observation Form):
1. _________________________________________________________
2. _________________________________________________________
3. _________________________________________________________

Strategies for meeting these objectives:
1. _________________________________________________________
2. _________________________________________________________
3. _________________________________________________________

Comments by Coach/Coachee:
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Post-Conference

Date: ____________________  Name of Coach: ____________________

Name of Coachee: ____________________

School: ____________________________________________

Please √ the following:

☐ 1st Coaching Session
√ 2nd Coaching Session
☐ 3rd Coaching Session

Teaching behaviors increased (From Summative Observation Form):
1. _______________________________________________________
2. _______________________________________________________
3. _______________________________________________________

Teaching behaviors decreased (From Summative Observation Form):
1. _______________________________________________________
2. _______________________________________________________
3. _______________________________________________________

Other target behaviors (From SCIE Forms):
1. _______________________________________________________
2. _______________________________________________________
3. _______________________________________________________

Strategies for meeting these objectives:
1. _______________________________________________________
2. _______________________________________________________
3. _______________________________________________________

Comments by Coach/Coachee:
_____________________________________________________
_____________________________________________________
_____________________________________________________
_____________________________________________________
_____________________________________________________
_____________________________________________________

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Post-Conference

Date: __________________ Name of Coach: ___________________________

Name of Coachee: _______________________

School: ____________________________________________________________

Please √ the following:

☐ 1st Coaching Session
☐ 2nd Coaching Session
☑ 3rd Coaching Session

Teaching behaviors increased (From Summative Observation Form):
1. _________________________________________________________________
2. _________________________________________________________________
3. _________________________________________________________________

Teaching behaviors decreased (From Summative Observation Form):
1. _________________________________________________________________
2. _________________________________________________________________
3. _________________________________________________________________

Other target behaviors (From SCIE Forms):
1. _________________________________________________________________
2. _________________________________________________________________
3. _________________________________________________________________

Strategies for meeting these objectives:
1. _________________________________________________________________
2. _________________________________________________________________
3. _________________________________________________________________

Comments by Coach/Coachee:
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
REFERENCES


Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.


VITA

Graduate College
University of Nevada, Las Vegas
Kit-hung Lee

Home Address:
55 Moonrise Way, Henderson, NV 89014

Degrees:
Bachelor of Arts, Education, 1987
Hwa Kiu College, Hong Kong

Master of Education, Special Education, 1992
University of Nevada, Las Vegas

Educational Specialist, School Psychology, 1996
University of Nevada, Las Vegas

Special Honors and Awards:
Outstanding Student Award, 1999-2000 (Board of Regents, University and Community College System of Nevada)

Edward Pierson Memorial Scholarship, 1999-2000
(Graduate College, University of Nevada, Las Vegas)

Meritorious Civil Service Award, 1989
(Government of Hong Kong)

Departmental Overseas Training Scholarship, 1983-1984
(Education Department, Hong Kong)

Publications:


Dissertation Title:
Effects of Preservice Peer Coaching on Student Teachers in Special Education.

Dissertation Examination Committee:
Chairperson, Dr. Susan P. Miller, Ph.D.
Committee Member, Dr. Kyle Higgins, Ph.D.
Committee Member, Dr. Sherri Strawser, Ph.D.
Graduate Faculty Representative, Dr. Eunsook Hong, Ph.D.