CHANGES IN INTERNS AND COOPERATING TEACHERS
DURING MUSIC STUDENT TEACHING

by

STEPHEN C. POSEGATE

A DISSERTATION
Presented to the School of Music and Dance
and the Graduate School of the University of Oregon
in partial fulfillment of the requirements
for the degree of
Doctor of Musical Arts
September 2009
University of Oregon Graduate School

Confirmation of Approval and Acceptance of Dissertation prepared by:

Stephen Posegate

Title:

"Changes in Interns and Cooperating Teachers During Music Student Teaching"

This dissertation has been accepted and approved in partial fulfillment of the requirements for the Doctor of Musical Arts degree in the Department of Music by:

Harry Price, Chairperson, Music
Sharon Paul, Member, Music
David Doerksen, Member, Music
Roland Good, Outside Member, Special Education and Clinical Sciences

and Richard Linton, Vice President for Research and Graduate Studies/Dean of the Graduate School for the University of Oregon.

September 5, 2009

Original approval signatures are on file with the Graduate School and the University of Oregon Libraries.
An Abstract of the Dissertation of

Stephen C. Posegate for the degree of Doctor of Musical Arts in the School of Music and Dance to be taken September 2009

Title: CHANGES IN INTERNS AND COOPERATING TEACHERS DURING MUSIC STUDENT TEACHING

Approved: ____________________________ ____________________________

Dr. Harry E. Price

This descriptive study collected both qualitative data and quantitative data to gain an increased understanding of changes in interns and cooperating teachers during student teaching in music. Five dyads consisting of an intern and a cooperating teacher participated. I gathered quantitative data through analysis of 20 videotaped teaching episodes: one of each intern and cooperating teacher at the beginning and near the end of each placement. Two recognized experts in music student teaching viewed the episodes in randomized order. The experts scored the episodes on 30 items using the Survey of Teaching Effectiveness (STE). The experts also gave an overall rating of each lesson’s quality. Additionally, I tallied statements of reinforcement as either specific or nonspecific and as either statements of approval or disapproval. An additional category was found during analysis: nonfunctional communication. I
gathered quantitative and qualitative data with a one-page demographic survey and by individual interviews. Though the participants were unanimous in stating that the interns improved as teachers during the placement, no quantitative differences were found. Interns all experienced fulfilled expectations, effective preparation, capable application, increased professionalization, and successful induction. Cooperating teachers were agreed that their interns came into the placement prepared to be successful in student teaching.
CURRICULUM VITAE

NAME OF AUTHOR: Stephen C. Posegate

PLACE OF BIRTH: Detroit, Michigan

DATE OF BIRTH: June 18, 1954

GRADUATE AND UNDERGRADUATE SCHOOLS ATTENDED:

University of Oregon, Eugene, Oregon
Indiana University, Bloomington, Indiana
Seattle Pacific University, Seattle, Washington
University of Alaska Anchorage, Anchorage, Alaska
Wheaton College, Wheaton, Illinois

DEGREES AWARDED:

Doctor of Musical Arts in Music Education, 2009, University of Oregon
Master of Music in Composition, 2000, Indiana University
Master of Education in Public School Administration, 1987, University of Alaska Anchorage
Bachelor of Music Education, 1976, Wheaton College

AREAS OF SPECIAL INTEREST:

Music Teacher Education
Instrumental Conducting
Technology in Music

PROFESSIONAL EXPERIENCE:

Assistant Professor of Music Education and Director of Symphonic Band,
Trinity International University, Deerfield, Illinois. 2003-present
Graduate Teaching Fellow, University of Oregon, Eugene. 2000-2003
Music Teacher, Nenana City Public Schools, Nenana, Alaska. 1980-1983
Music Teacher, Railbelt (now Denali Borough) Schools, Healy, Alaska.  
1976-78

GRANTS, AWARDS AND HONORS:

Graduate Teaching Fellowship, University of Oregon, 2000-2003


Career development grant, Anchorage Symphony Orchestra, 1988

Membership in Kappa Delta Pi, University of Alaska Anchorage, 1986

National Merit Scholarship, Wheaton College, 1972
ACKNOWLEDGEMENTS

I wish to thank Dr. Harry E. Price, my dissertation committee chair, for his encouragement and support. At several critical points he helped me to work out a way to continue this project and to bring it to a successful conclusion.

I would also like to thank the other members of my committee for their patience and persistence. Dr. Roland Good helped me to understand the world of statistics and the meaning behind the numbers. Dr. Sharon Paul encouraged me in many ways and made her choral conducting classes a joy. Dr. David Doerksen brought a wealth of wisdom and experience in methods of teacher evaluation to my dissertation.

Thanks also go to the participants in this study. Though I cannot reveal their names due to confidentiality protocols, they are all remarkable individuals and colleagues in music education. I also want to thank several people who made this study possible by their encouragement and interest: Dr. Michael Zemek of Augustana College, Dr. David Snyder and Dr. Kimberly McCord of Illinois State University, Dr. Matt Strauser of Corban University, Dr. Matthew Heller of Trinity International University, and Mr. Ross Kellan of Elmhurst College. I also thank Dr. Donald Hamann of the University of Arizona for permission to use the Survey of Teaching Effectiveness.
Finally, thank you to my wife, Kathy, and three children; Elizabeth, Rebekah, and Thomas. I was frequently distracted or unavailable while working on this degree, and I appreciate their sacrifice and understanding.
TABLE OF CONTENTS

Chapter                                      Page

I. INTRODUCTION.................................................................  1
   Influence of Cooperating Teachers and University Supervisors on
   Interns.................................................................  1
   Induction, Retention, and Attrition in Music Education..........  4
   Research into Cooperating Teachers’ Influence on Interns .......  5
   Summary.....................................................................  7
   Statement of Purpose..................................................  7
   Significance on the Study.............................................  8
   Research Questions.................................................... 10
   Definitions.............................................................. 11

II. REVIEW OF RELATED LITERATURE.................................  15
   Introduction............................................................ 15
   Student Teaching as Part of Teacher Education................... 15
   Ways of Knowing in Teacher Education.......................... 17
      Quantitative or Experimental Research...................... 19
      Increasing Desired Behaviors.................................. 20
      Measures and Ratings............................................ 21
      Survey of Teaching Effectiveness............................ 22
      Qualitative or Constructivist Perspective.................. 23
      Interviews........................................................... 25
      Studies Gathering both Quantitative and Qualitative Data ... 26
   How Interns Develop Their Views of Good Teaching.............. 29
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Influences on Interns’ Views of Good Teaching</td>
<td>29</td>
</tr>
<tr>
<td>The Influence of Personal Histories on Music Candidates’ Views of Good Teaching</td>
<td>31</td>
</tr>
<tr>
<td>Field Experiences in Teacher Education</td>
<td>33</td>
</tr>
<tr>
<td>Difficulties Applying What Is Learned in the University to the School Setting</td>
<td>34</td>
</tr>
<tr>
<td>Student Teaching as Part of the Induction Process</td>
<td>34</td>
</tr>
<tr>
<td>Successful Student Teaching Experiences</td>
<td>37</td>
</tr>
<tr>
<td>The Effect of Student Teaching Placements on Interns</td>
<td>37</td>
</tr>
<tr>
<td>The Effect of Cooperating Teachers on Interns</td>
<td>37</td>
</tr>
<tr>
<td>Benefits of Cooperating Teachers Who Are Trained and Difficulties in Recruiting Trained Cooperating Teachers</td>
<td>41</td>
</tr>
<tr>
<td>Possible Benefits of the Placement for Cooperating Teachers</td>
<td>43</td>
</tr>
<tr>
<td>Possible Changes in Cooperating Teachers Due to the Placement</td>
<td>45</td>
</tr>
<tr>
<td>Delimitations</td>
<td>46</td>
</tr>
<tr>
<td>Summary</td>
<td>46</td>
</tr>
</tbody>
</table>

III. METHODS AND PROCEDURES | 49 |
<p>| Institutional Review Board Approval | 49 |
| Carrying Out the Study | 50 |
| Recruiting Participants | 50 |
| Interested Potential Participants | 51 |
| Participants and Gathering Data | 52 |
| Five Dyads | 52 |
| Video Recorded Episodes | 57 |
| Compiling Data | 57 |
| Quantitative Analysis | 60 |</p>
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>STE Scores</td>
<td>60</td>
</tr>
<tr>
<td>Interviews</td>
<td>61</td>
</tr>
<tr>
<td>Revised IRB Approval</td>
<td>61</td>
</tr>
<tr>
<td>Interviewing the Participants</td>
<td>61</td>
</tr>
<tr>
<td>Reliability Checks</td>
<td>62</td>
</tr>
<tr>
<td>Analyzing the Interviews</td>
<td>62</td>
</tr>
<tr>
<td>IV. RESULTS</td>
<td>63</td>
</tr>
<tr>
<td>Quantitative Data</td>
<td>63</td>
</tr>
<tr>
<td>Descriptive Statistics that Are Suggestive</td>
<td>65</td>
</tr>
<tr>
<td>Qualitative Data</td>
<td>68</td>
</tr>
<tr>
<td>Fulfilled Expectations</td>
<td>68</td>
</tr>
<tr>
<td>Effective Preparation</td>
<td>71</td>
</tr>
<tr>
<td>Capable Application</td>
<td>72</td>
</tr>
<tr>
<td>Increased Professionalization</td>
<td>73</td>
</tr>
<tr>
<td>Successful Induction</td>
<td>83</td>
</tr>
<tr>
<td>Other Issues</td>
<td>83</td>
</tr>
<tr>
<td>Summary of Results</td>
<td>88</td>
</tr>
<tr>
<td>V. DISCUSSION</td>
<td>90</td>
</tr>
<tr>
<td>Quantitative Results</td>
<td>91</td>
</tr>
<tr>
<td>Qualitative Results</td>
<td>95</td>
</tr>
<tr>
<td>Fulfilled Expectations</td>
<td>95</td>
</tr>
<tr>
<td>Effective Preparation</td>
<td>96</td>
</tr>
<tr>
<td>Capable Application</td>
<td>97</td>
</tr>
<tr>
<td>Increased Professionalization</td>
<td>98</td>
</tr>
<tr>
<td>Successful Induction</td>
<td>99</td>
</tr>
</tbody>
</table>
### Table of Contents

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reconciling Quantitative and Qualitative Findings</td>
<td>101</td>
</tr>
<tr>
<td>Problems Encountered in the Study</td>
<td>102</td>
</tr>
<tr>
<td>Changes During the Study</td>
<td>104</td>
</tr>
<tr>
<td>Possible Bias and Efforts to Mitigate Bias</td>
<td>104</td>
</tr>
<tr>
<td>Recommendations for Future Research</td>
<td>105</td>
</tr>
<tr>
<td>Concluding Thoughts</td>
<td>107</td>
</tr>
</tbody>
</table>

### APPENDICES

<table>
<thead>
<tr>
<th>Appendix</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. COOPERATING TEACHER INFORMATION SURVEY</td>
<td>108</td>
</tr>
<tr>
<td>B. STUDENT TEACHER INFORMATION SURVEY</td>
<td>110</td>
</tr>
<tr>
<td>C. SURVEY OF TEACHING EFFECTIVENESS</td>
<td>112</td>
</tr>
<tr>
<td>D. INTERVIEW QUESTIONS</td>
<td>118</td>
</tr>
<tr>
<td>E. RECRUITING FLYER</td>
<td>120</td>
</tr>
<tr>
<td>F. INFORMED CONSENT DOCUMENT FOR COOPERATING TEACHER</td>
<td>122</td>
</tr>
<tr>
<td>G. INFORMED CONSENT DOCUMENT FOR STUDENT TEACHER</td>
<td>126</td>
</tr>
<tr>
<td>H. SAMPLE LETTER</td>
<td>130</td>
</tr>
<tr>
<td>I. INFORMED CONSENT DOCUMENT FOR INTERVIEWS</td>
<td>131</td>
</tr>
<tr>
<td>J. COMPILED QUANTITATIVE DATA</td>
<td>133</td>
</tr>
</tbody>
</table>

### BIBLIOGRAPHY

| BIBLIOGRAPHY                                                             | 135  |
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Survey of Quantitative Data per Episode Including Survey of Teaching Effectiveness (STE), Global Ratings, and Tallies of Reinforcement</td>
<td>64</td>
</tr>
<tr>
<td>2. F Statistics Evaluating the Significance of Main Effects of Teacher and Time and the Interaction Effect for Study Variables</td>
<td>66</td>
</tr>
<tr>
<td>3. STE Item Scores – Mean of Combined Rater Scores</td>
<td>67</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

Student teaching is the culminating experience in teacher education programs (Conway, 2002; Karmos & Jacko, 1977). Interns rate student teaching as the most useful part of their preservice programs (Haberman, 1983; Tannehill, 1989; Yee, 1968). It is viewed as a time when interns bring together many influences and construct their personal identities as teachers (Karmos & Jacko; Schmidt, 1998; Snyder, 1997). Most simply, the goal of student teaching in music is to take music education students and transform them into music educators by the end of the student teaching placement (Beynon, 1998; Hazelton, 1996; Wheeler, 1987). The purpose of this study was to examine changes in the teaching performance of cooperating teachers and interns in music during the period of a student teacher placement.

Influence of Cooperating Teachers and University Supervisors on Interns

Student teaching placements involve a triad—university supervisor, cooperating teacher, and intern (McIntyre & Morris, 1980; Rideout & Feldman, 2002, Yee, 1968), with each member serving an important, yet distinct, role in a successful student teaching experience (McIntyre & Morris; Kahan, Sinclair, Saucier, & Caiozzi,
University supervisors, for example, have more to do with education in the broader sense. They have a greater influence on concepts and principles, general aspects of teaching, and goal setting, which includes purposes and expectations (Haberman, 1983). They represent the university’s teacher education program and make periodic visits to the intern and cooperating teacher in an evaluative role, but are not directly involved in the daily process of planning or teaching (Rideout & Feldman, 2002). Cooperating teachers tend to view the university supervisor’s primary role as that of overseer of the entire placement and moderator of any issues between the intern and the cooperating teacher (Tjeerdsma, 1998).

While university supervisors prepare interns for meeting unpredictable future circumstances, cooperating teachers are more involved with technical training for teaching. They prepare interns for specific situations in the present, including the daily process of planning and teaching. As a result, cooperating teachers have a greater influence on interns’ teaching behaviors and techniques than do university supervisors (Beynon, 1998; Drafall & Grant, 1994; Haberman, 1983; R. D. Price, 1961; Tannehill, 1989). My study will focus on the particular dyadic relationship of cooperating teacher and intern rather than on the triad as a whole.

Interns themselves report that their cooperating teachers have the most influence on both their behaviors and attitudes during student teaching. Karmos and Jacko (1977) found that the cooperating teacher was mentioned by 85% of interns in their study as either the first or second most important positive influence on their student teaching while university supervisors were mentioned as first or second by
25% of the interns. When the nature of the support was specified, interns mentioned cooperating teachers’ support in role development and cooperating teachers’ personal support most often. Of the many categories of influence and many sources of support listed, only in “support in professional skills” was the university supervisor as influential as the cooperating teacher.

As teachers who have been working for several years, cooperating teachers are seen as successful professional educators who are qualified to serve as models and mentors for interns (Rideout & Feldman, 2002). For over 40 years research has shown that interns acquire many of the teaching practices of their cooperating teachers during their placement (Perrodin, 1961; R. D. Price, 1961). The influence of cooperating teachers on interns may depend on individual characteristics of each member of the dyad (McIntyre & Morris, 1980). Cooperating teachers have daily contact with the interns and are actively and intimately involved in the teaching process during the student teaching term (Kahan et al., 2003). The relationship between intern and cooperating teacher may develop beyond that of apprenticeship towards a relationship of collaboration (Fallin & Royse, 2000; Rideout & Feldman, 2002). One process that can advance that relationship is the use of directed reflective dialog (Stegman, 2007; Talvitie, Peltokallio, & Mannisito, 2000). This can be encouraged through regular conferences during the placement (Grant & Drafall, 1994; Schleuter, 1991).
Induction, Retention, and Attrition in Music Education

Within the field of music education, as in teacher education in general, student teaching is viewed as an important part and the most important single experience of the teacher education program (Brand, 1982; Conway, 2002; Fallin & Royse, 2000). Student teaching is also seen as one part of the long process of induction of teachers into the profession. Induction starts as early as future teachers’ experiences as pupils in school (Rideout & Feldman, 2002). Induction enters a formal phase in the coursework of a university music education program. Many music education programs include microteaching episodes and introduce the concept of self-evaluation and reflective assessment of practice during coursework (Butler, 2001; Paul, 1998). The goal of these experiences is to help music education candidates to become aware of their own teaching styles and to be able to help themselves improve as teachers. Field experiences are included in many teacher education courses (Wolfgang, 1990) and are required to be included in teacher education programs in some states, including Illinois where this study took place. Field experiences bring candidates into the school environment and are designed to help candidates to apply the theory that they have learned in university courses in the daily routine of school life. In field experiences, music education candidates influence their own developing roles by interactive decision-making (Brand, 1985; Wolfgang).

During the time of this study, music educators were greatly interested in the induction process. Openings for music teachers across the USA exceeded the supply of qualified music teacher candidates by a 2:1 ratio (Hill, 2003). Helping to meet the
demand for qualified music teachers included more than simply encouraging a larger number of music education candidates to complete their certification (Cochran-Smith, 2004). It was also a matter of keeping new teachers in the profession and helping them to grow professionally through their first few years of teaching (Pembrook & Fredrickson, 2000–2001). MENC: The National Association for Music Education worked not only to recruit, but also to retain music teachers in the profession. The organization received federal support to develop mentorship arrangements in hopes of retaining more music teachers (Hill, 2004). An element of some mentoring programs was an evaluation of the university teacher education programs and the degree to which those programs prepared new teachers for their first full-time teaching positions (Conway, 2002; Madsen & Hancock, 2003).

**Research into Cooperating Teachers’ Influence on Interns**

Despite several factors that indicate the importance of understanding the role of cooperating teachers in music student teaching, research investigating this role has been scarce (Haberman, 1983; Rideout & Feidman, 2002). Those studies that have investigated cooperating teachers’ influence on interns in music have tended to be qualitative studies that examined a small number of student teaching dyads (six or fewer) (Beynon, 1998; Schmidt, 1998). The studies examined the lived experiences of interns and provided a rich description of how student teaching was perceived by them during the time of student teaching (Snyder, 1996). The research designs and small sample sizes of these studies made it difficult to generalize their findings to larger
populations. For example, most of the authors of research on student teaching were supervisors themselves of the participants in their studies (Beynon, 1998; Liebhaber, 2003). The subjects in these studies may have responded to the supervisory influence of the researcher during the student teaching placement, and reported what they perceived their supervisor wanted to hear. (Schleuter, 1991; Rideout & Feldman 2002).

Published qualitative studies and dissertations that examined the cooperating teachers' role in student teaching in music have reinforced the view that cooperating teachers influenced interns (Snyder, 1996; Stegman, 2007). These studies have not always found the cooperating teachers' influence to be positive (Schleuter, 1988; Schmidt, 1994). For example, Beynon (1998) found that the cooperating teachers in her study discouraged innovation and renewal in their interns. Schmidt (1998) found that one of her participants had a positive experience with one of her cooperating teachers, but a relationship with another cooperating teacher that was so frustrating that it contributed to her decision to leave music education entirely.

By contrast, quantitative investigations into cooperating teachers' influence on interns' classroom management beliefs and skills in music have not found a significant effect (Brand, 1982; Terry, 1991). (This will be discussed more thoroughly in the Review of Related Literature.) These studies brought into question many assumptions about cooperating teachers' effectiveness in helping interns to learn teaching skills that are needed in day-to-day teaching.
Summary

At the time of this study music educators in the USA and others expressed a high level of interest in preparing, attracting, and retaining good music educators (Hill, 2003). Vacant music teacher positions needed to be filled with highly qualified applicants (Cochran-Smith, 2004). Also, teacher educators and interns recognized the importance of the student teaching experience in the professional development of music educators (Beynon, 1998; Hazelton, 1996). The cooperating teacher’s role in particular was of great importance to the intern’s professional development during the student teaching experience (Meijer, Zanting, & Verloop, 2002). Despite these understandings, few studies have investigated the nature of cooperating teachers’ influence on interns in music during student teaching (Rideout & Feldman, 2002).

Statement of Purpose

The purpose of this study was to examine the teaching of cooperating teachers and interns in music during the period of a student teacher placement. The goal was to determine whether interns changed in their teaching practices during the placement and whether those changes, if any, meant that they taught more like their cooperating teachers. A second area of investigation was whether cooperating teachers changed in their teaching over the same period of time and, if they did change, whether the changes were congruent with those of the interns.
Significance of the Study

This study was designed to bridge a gap in the research on cooperating teachers and their influence on interns in music. Qualitative literature reinforced the view that cooperating teachers had an important influence on interns in music (Beynon, 1998; Schmidt, 1998; Snyder, 1996). However, quantitative studies have not shown such an effect (Brand, 1982; Terry, 1991).

This descriptive study gathered both quantitative and qualitative data from a total of five sources. First, cooperating teachers and interns completed a brief survey (Appendices A and B, respectively). Demographic data were collected for each participant. The surveys asked for information in areas that have been suggested as being important to the working relationship between cooperating teachers and interns. For cooperating teachers, these data included such items as years in present teaching placement, previous experience as a cooperating teacher, and training in supervision, if any (Tannehill, 1989). For interns, the data included such items as whether the intern had any field placements previously with the cooperating teacher and whether the intern had any involvement in the choice of cooperating teacher (Gehrke, 1988; Tabachnik & Zeichner, 1984; Wheeler, 1987). Involvement in choosing the cooperating teacher may accelerate interns' taking on of the teachers' role (Lortie, 1975; Shavelson, 1973).

A second set of data came from video recordings of teaching episodes. The participants, who were members of a dyad of an intern and a cooperating teacher,
worked together to video record teaching episodes. The members of each dyad recorded four episodes with the same class of pupils, each of a full lesson. Four of the dyads recorded lessons in elementary general music. The fifth dyad recorded lessons with a fifth grade chorus. One episode was recorded near the beginning of the student teaching placement and one near the end of the placement for each participant in the dyad. The video recordings were the length of a regularly scheduled class session, with a mean length of 25 minutes.

I randomized the sequence of the episodes and specified the order for them to be viewed. Two independent expert raters viewed the video recorded teaching episodes by interns and cooperating teachers in the order specified. They scored them with using the *Survey of Teaching Effectiveness* (STE) found in Appendix C (Hamann & Baker, 1996). I calculated a total score for each episode from each rater according to the formula on the final page of the STE. Then I compared the STE total scores at both times (pre- and postpracticum) for both interns and cooperating teachers.

The expert raters also gave a comprehensive rating of the lesson’s overall quality on a scale from 1 to 100 with a score of 100 indicating an excellent lesson. I then compared pre- and postpracticum expert ratings for both interns and cooperating teachers.

Additionally, I analyzed the video recordings for statements of reinforcement. I tallied statements of approval and disapproval and nonspecific statements and specific statements related to the current task. I compared numbers of reinforcements in each
category and the ratio of the four categories of reinforcements. I compared these data over time (pre- and postpracticum) and between cooperating teachers and interns. I gathered data from a fifth source, interviewing the participants in my study using the questions in Appendix D. I also allowed for follow-up questions on themes that emerged during the interview.

My hope was that the results of this study would provide more information about cooperating teachers and their influence on interns in music. Rather than examining impressions or reflections of the participants, this study was designed to look at changes in actual teaching performance.

**Research Questions**

1. Do interns change in their teaching performance during the course of a student teacher placement?
   1a. Do interns teach more like their cooperating teachers during the course of student teaching?
   1b. Are there any identifiable factors that are associated with interns teaching more like their cooperating teachers?
2. Do cooperating teachers change in their teaching performance during the course of a student teacher placement?
3. Do interns and/or cooperating teachers perceive change in interns during the course of student teaching? If so, what are the changes?
4. Do interns and/or cooperating teachers perceive change in cooperating teachers during the course of student teaching? If so, what are the changes?

**Definitions**

*Candidates* are college and university students enrolled in a teacher education program. In this definition, interns are candidates.

*Cooperating teachers* are full-time educators who are considered to be qualified to serve as models and mentors to interns. Technically and legally they are still in charge of the classrooms even as they yield the teaching and control of the classrooms to the interns. Other terms used for this role are *associate teacher* (Beynon, 1998) *mentor teacher* (Meijer, et al., 2002), *critic teacher*, and *supervising teacher* (R. D. Price, 1961).

*Field experiences* are placements in schools that are part of the teacher education program. They are also called *practica*. They can include observation, assisting the teacher with administrative tasks, tutoring individuals or small groups, or teaching the full class under the cooperating teacher’s supervision. Usually field experiences are connected with specific coursework at the university. Early field experiences are part of the program the students complete before student teaching. Student teaching is the culminating field experience.

*General music* is music instruction that is not part of a performing ensemble. Band, choir, and string orchestra are examples of performing ensembles. Elementary
classroom music, middle school exploratory classes in music, and high school music theory classes are examples of general music. General music classes may occasionally include performances, but the emphasis is on instruction. Four of the dyads in this study recorded teaching episodes in general music. One dyad recorded a fifth grade chorus.

*Induction* is the process of being initiated into the profession. It is sometimes narrowly defined as the final stage of becoming comfortable in the role of music teacher through mentoring in the first years as a full-time professional. Defined more broadly, induction can mean all of the experiences that lead to a teacher feeling comfortable in the professional role of music teacher (Wheeler, 1987).

*Interns* are preservice teachers in the final stages of qualifying to be certified as teachers. Interns are not on the paid teaching staff. Note: when this study was initiated, *student teacher* was the preferred term. During the time of this study, *intern* became the preferred term. Some of the original documentation in the appendices still contains the term *student teacher*.

*Large elementary schools* are defined as those with a pupil population of 600 or more. According to the National Center for Educational Statistics (NCES) (2009a), 30.1% of elementary schools nationwide had populations of 600 or more pupils during the 2005-06 school year, the most recent year for which data were available.

*Large universities* are defined as those with more than 7,500 full-time students (New American Colleges and Universities, 2009).
Mid-sized colleges and universities are defined as those with 3,000 to 7,500 full-time students (Jaschik, 2005; New American Colleges and Universities, 2009).

Mid-sized elementary schools are defined as those with pupil populations of 300 to 599. According to NCES (2009a) the average size of elementary schools nationwide was 473 pupils in 2005-06. The average size in Illinois that school year was 444 pupils (NCES, 2009b). Schools with 300 to 599 pupils were 37.8% of the nationwide total (NCES, 2009a).

Pupils are children or teenagers enrolled in K-12 public or private schools.

Small colleges are defined by small college expert Samuel Schuman (Jaschik, 2005) as those enrolling 500 to 3,000 full-time students.

Small elementary schools are defined as those with fewer than 300 pupils. According to NCES (2009a) 32.2% of elementary schools nationwide had 299 pupils or fewer during the 2005-06 school year.

Student teaching is the culminating field experience of a teacher preparation program. In a student teaching placement, the intern takes on the role of a full-time teacher even while technically and legally under the supervision of a cooperating teacher.

University supervisors are representatives of the teacher preparation institution during student teaching. In this role university supervisors may observe interns’ teaching, make evaluative comments and recommendations, and mediate issues between interns and cooperating teachers or issues related to the school setting.
Ultimately, university supervisors are responsible to confirm that interns have fulfilled all requirements of student teaching to be recommended for certification as teachers.
CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

This review of literature will begin by considering the challenges of student teaching in the context of a teacher education program. Following that is a look at ways of knowing in teacher education and the categories of research that are used to examine teacher education. The next section is an investigation of whether the expectations of student teaching are realistic. The fourth section is an analysis of successful student teaching placements, while the fifth section concerns the limitations of this study.

Student Teaching as Part of Teacher Education

Student teaching is one of the most important experiences in the professional development of teachers. The student teaching process is influenced by many factors, including the characteristics of the teacher education program, school settings, influences of state certifying agencies and schools of education, and the personalities of the three members of the triad—university supervisor, cooperating teacher, and intern (Kahan et al., 2003; Rideout & Feldman, 2002). Each of these constituencies
may have formal or informal expectations. However, when they give only subtle or no indicators of the expectations, interns have no realistic way to meet them. Interns may not know how to extrapolate expectations from nondirected observations of cooperating teachers (Schleuter, 1991; Schmidt, 1998; Woods, & Weasmer, 2003). Because of this, teacher educators must prepare candidates to function successfully within an educational environment that has been characterized as uncertain and complex. Further, teacher education programs must operate within constraints imposed by outside forces, such as limited time with pupils, staffing shortages, and state-mandated requirements (Butler, 2001; Nierman, Zeichner, & Hobbel, 2002).

Another challenge is the great diversity in teacher preparation among institutions offering student teaching (Haberman, 1983). While alternate programs offer multiple entry routes into teaching, the four-year undergraduate program continues to be the most popular way that teachers enter the profession (Nierman et al., 2002). Among the 1,300 colleges and universities in the United States with teacher education programs, differences in personnel, teaching methods, budgets, leadership, and community support result in substantial differences even within individual teacher education programs (Berliner, 2002).

These challenges make it imperative that teacher education programs optimally use the limited time and resources available to best prepare students to function competently in their teaching careers (Butler, 2001). The fact that student teaching is a ubiquitous requirement indicates that teacher education programs put great faith in the student teaching process. Many stakeholders have an interest in making the student
teaching placement a positive one (Wheeler, 1987). With appropriate supervisory support, even poor student teaching environments can become educative for interns (Schmidt, 1998).

While there has been some research into student teaching in music, it remains a complex process. Many variables interact in the school environment, complicating any study of what actually occurs in a placement. Furthermore, Haberman (1983) states that studies in student teaching tend to be one-time doctoral dissertations and the recommendations for future research are rarely followed. In addition, people who work with student teachers tend to be practitioners rather than researchers. While those involved in student teaching understand the problems, they usually lack the inclination for research or the skills required for systematic study regarding proposed solutions (Grant & Drafall, 1991; Nierman, et al., 2002; Zeichner, 1999).

Ways of Knowing in Teacher Education

Researchers seek to use research to inform and improve teacher education, but take different approaches in that pursuit (Zeichner, 1999). On the one hand are researchers who use experimental designs to make definitive statements about causality. An argument for the use of experimental designs, such as randomized clinical trials (RCTs), is that they can help teacher educators to develop evidence-based practice (Capraro & Thompson, 2008). Only quantitative RCTs can provide definite causal evidence, but RCTs are difficult to design and execute within the context of a student teaching placement (Nierman, et al., 2002). Some difficulties that
I encountered and will discuss in Chapter III include gaining Institutional Review Board (IRB) approval of the research protocol, gaining the informed consent of the interns and cooperating teachers, gaining permission from the school districts involved, and gaining permission from the pupils and their parents, if necessary.

On the other hand are researchers who use qualitative procedures to contextualize causal mechanisms and understand why interventions work (Capraro & Thompson, 2008). These studies tend to have fewer participants, but provide a deeper and richer description of the lived experience of the participants (Grant & Drafall, 1991; Zeichner, 1999). All of the contributing factors in a school setting, especially human variability, limit the generalizability of educational research findings (Berliner, 2002; Tabachnik & Zeichner, 1984). For example, the researcher cannot control factors of school setting, curriculum content, school resources, and lesson length and frequency. Additionally, cooperating teachers have differing sets of expectations for interns and present different teaching models for them (Beynon, 1998; Rideout & Feldman, 2002, Woods & Weasmer, 2003). Interactions abound in educational research at many levels (Berlin; Duke, 1999/2000), which means that the effect of an intervention may differ from one setting to another.

Both quantitative and qualitative approaches have their difficulties, but either may be appropriate, depending on the research question that is being investigated (Capraro & Thompson, 2008). My study gathered data through both approaches, which are described more fully below.
Quantitative or Experimental Research

Quantitative researchers in teacher education have identified particular behaviors, procedures, or conditions that are associated with good teaching (H. E. Price, 1992; Zeichner, 1979). In some cases researchers have had to conduct multiple studies over a period of years to identify, define, and validate a particular behavior or procedure (Duke, 1999/2000; Hendel, 1995). Researchers have also conducted additional studies to find ways to increase the desired behaviors (Kahan, et al., 2003; H.E. Price, 1992).

The studies of complete sequential teaching patterns in music serve as examples of how research can be used to identify, define, validate, and demonstrate ways to increase a desired behavior. A sequential pattern in teaching includes three elements: presentation of the task to be learned, student interaction with the task and teacher, and related and specific teacher reinforcement (H. E. Price, 1992). Students in a university band rated rehearsals more enjoyable and rated conductors as better teachers when the conductor used a complete teaching sequence. The same students also were more attentive and achieved more under rehearsal conditions with academic task presentation, directions, and ensemble performance, followed by conductor reinforcement than under conditions with incomplete teaching sequences (H. E. Price, 1983). Instrumental and vocal music education students learned to increase their use of complete sequential teaching patterns (H.E. Price, 1992). When asked to evaluate scripted choral rehearsals, university students and experienced teachers rated sequences beginning with musical information higher than those beginning with
directions, those ending in approvals higher than those ending in disapprovals, and those ending with specific reinforcement higher than those ending in nonspecific reinforcement (Yarbrough, Price, & Hendel, 1994). A group that consisted mostly of elementary education and early childhood education majors evaluated lessons with a similar hierarchy as the previously cited study (H. E. Price & Yarbrough, 1993/1994). Because of these findings, my study tallied statements of reinforcement as a specific behavior that increases student learning.

Another study validated the advantages of sequential patterns with high school and elementary school pupils (Yarbrough & Hendel, 1993). In contrast to Haberman’s (1983) assertion that most studies focusing on student teaching are one-time doctoral dissertations, Hendel (1995) lists 25 studies including 22 authors whose work helped to define and validate the elements of a sequential pattern as well as to show its relationship to increased student attentiveness and achievement. These studies also demonstrated that use of these elements could be increased in a variety of situations.

*Increasing Desired Behaviors*

Zeichner (1999) states that in the late 1970s, most published research in teacher education was about increasing specific behaviors in the short term through techniques like microteaching and “bug-in-the-ear.” During bug-in-the-ear studies, an intern would teach a lesson while a supervisor gave suggestions and comments to the intern through an earpiece. The studies showed that teachers could be encouraged to increase the use of the desired behaviors, at least for a limited time. Though hundreds
of studies reported on the impact of encouraging candidates to increase certain behaviors, few looked at the process of teacher education as it developed over an extended period of time, so it is unknown whether this protocol had any lasting effect (Zeichner).

Cooperating teachers have a strong influence on interns when it comes to specific behaviors and techniques (Haberman, 1983; Kilgore, 1979; Snyder, 1996; Tabachnik & Zeichner, 1984; Tannehill, 1989). Coulon (2000) found that cooperating teachers could make specific task statements related to teaching a lesson, and that interns could incorporate over half of those task statements when reteaching the same lesson to a different class. Interns who were given specific criticism had a better likelihood of improving in those areas. Interns who had been taught specific behaviors demonstrated them more frequently than those not taught those behaviors (Haberman, 1983; Kahan, et al., 1983).

Measures and Ratings

My study gathered both comprehensive ratings and categorical scores. Comprehensive ratings are global evaluations for an entire performance or activity. Categorical scores are evaluations of specific factors that are essential parts or requisite elements of the total performance. The relationship between comprehensive ratings and categorical scores is a complex one. Bergee (1992b) found that music interns sometimes are rated using generic instruments with categories that may not be
valid or reliable for music. Expert ratings may be more stable and reliable than
categorical scores (Brakel, 2006).

A study by C. K. Madsen, Standley, Byo, and Cassidy (1992) compared the
reliability of global ratings and categorical scores. In it, candidates watched videotapes
of their own teaching episodes and evaluated them both globally and on categories of
an observation form. Experienced observers also rated the episodes globally and with
the observation form. Additionally, a set of expert music teachers rated the episodes
for overall teaching effectiveness. Because the authors felt that the experts understood
good teaching based on their experience and demonstrated expertise, they allowed the
experts to determine their own criteria for overall teaching effectiveness. In the end,
more agreement was found between candidates’ global self-assessment and both sets
of experts’ global assessments than in the categorical scores. This result indicated that
though people may have known what good teaching is, they may have had difficulty
analyzing its component parts (Madsen, et al.).

*Survey of Teaching Effectiveness*

My study included both global ratings and categorical scores. To gather
categorical scores, I used the *Survey of Teaching Effectiveness* (STE in Appendix C)
as a scoring instrument for observable desired teaching indicators in music. This
instrument has been used as a measure of teaching effectiveness in three published
studies (Butler, 2001; Hamann, Lineburgh, & Paul, 1998; Paul, Teachout, Sullivan,
Kelley, Bauer, & Raiber, 2002). Empirical validity for STE was established to be $r_s =$
The procedure for establishing validity was twofold. First, adjudicators ranked videotaped teaching episodes from “best” to “least best.” Three weeks later the adjudicators scored the episodes using the STE. The episodes were then ranked by score and compared to the previous ranking. Reliability of the STE was established in a test-retest procedure as $r = .83$ (Paul, et al., 2002). Intercorrelations between the categorical scores and Total Score of STE were found to range from $r = .61$ to $= .95$ (Hamann et al.).

Are the categories of STE truly representative of good teaching? Madsen, et al. (1992) found that teacher intensity was highly important in scoring teacher effectiveness. Intensity included an enthusiastic affect, effective pacing, sustained control of teacher/student interaction, and accurate and efficient presentation of the subject matter. Similar specific items as included on STE include: charisma, energy, confidence, enthusiasm; interest shown in students/topic; organization; logistics; flow; responsiveness; and subject matter competence. Grant and Drafall (1991) listed the following characteristics of effective music teachers: enthusiasm, taking a personal interest in students, presenting material in a clear manner, teaching at a brisk pace, planning a variety of activities in the class period, and balancing praise and criticism. These all are similar to items of STE.

Qualitative or Constructivist Perspective

Qualitative inquiry has become prominent in education research (Berliner, 2002). Qualitative researchers in teacher education have looked at learning to teach as
a complex and integrated process in which many factors interact (Capraro & Thompson, 2008). Qualitative studies may be best for describing complex phenomena, generating theoretical models, and reframing questions (Feuer, Townsend, & Shavelson, 2002). Qualitative inquiry includes an emphasis on understanding the context in which the study takes place (Berliner, 2002; Schleuter, 1994/1995).

For example, some qualitative researchers start with the belief that decision-making is the basic teaching skill and that teachers’ decision-making in the moment must be considered to understand teaching (Berliner, 1980; Shavelson, 1973). Data is often collected by interviews, journals, and directed discussion (Beynon, 1998; Brink, Laguardia, Grisham, Granby, & Peck, 2001; Lortie, 1975; Pembrook & Fredrickson, 2000/2001; Snyder, 1996; Tjeerdema, 1998).

Zeichner (1999) reported that the two decades before his study was published saw an increase in the number of qualitative studies that were respectful of the complexity of teacher education. Studies of learning to teach became a research strand. This research shows the difficulty of changing the tacit beliefs, understandings, and worldviews that candidates bring to teacher education programs (Bullough, Knowles, & Crow, 1991; Stegman, 2007; Tabachnik & Zeichner, 1984; Terry, 1991). Britzman (1991) found that without past examples of good teaching to use as models, interns had little chance of being successful. Schmidt (1998) found that to really bring about change in candidates, one must start by discovering the candidates’ current understanding of good teaching. Zeichner (1999) found that sometimes candidates transform the intended messages of teacher educators to fit their own preconceptions,
even if the transformed meaning is in conflict with the meaning intended by the speaker.

As an example of a qualitative study in music, Stegman (2007) found that directed reflective dialog advanced the relationship between intern and cooperating teacher beyond that of apprenticeship towards one of collaboration. This study looked at six pairs of interns and cooperating teachers. As the term progressed, interns' comments changed from technical concerns and a focus on themselves and their own teaching performances to an orientation toward curriculum with more concern for student learning and achievement. Those who had longer placements (16 weeks) showed more change than those with shorter ones (10 weeks).

Broyles (1997) found that interns experienced role development and most increased their occupational identities as they learned to analyze videotaped teaching episodes in music. This study used qualitative methodology including observation instruments and journals. The interns became less self-concerned and more concerned with their pupils. Cooperating teachers reported that viewing the videotapes of their own teaching with their interns and commenting on their thought process helped the interns teach better. Guided self-evaluation of videotaped lessons has also helped interns in music to improve their questioning skills (Hughes, 2005).

**Interviews**

Interviews have been found to help researchers more fully understand the dynamics of interns' interactions with cooperating teachers and to more fully
understand what the researchers observed in the classroom (Beynon, 1998; Brink et al., 2001; Britzman, 1991; Liebhaber, 2003). Schmitt (1998) found that interviews with interns in her study illuminated their perceptions of success or failure as student teachers.

**Studies Gathering both Quantitative and Qualitative Data**

At one time qualitative and quantitative methods were considered philosophically incompatible, but recently some researchers view these approaches as being on a single continuum (Capraro & Thompson, 2008; Onwuegbuzie, 2002). In fact, Zeichner (1999) reported an increase in studies gathering both quantitative and qualitative data in the two decades before his study was published. Since education occurs in a multifaceted environment with many constantly interacting factors, the research question should determine which method would best lead to increased understanding (Berliner, 2002; Capraro & Thompson).

For example, randomized experiments may be best if causal hypotheses can be formulated and if randomization of treatment and control is ethical and feasible (Feuer et al., 2002). On the other hand, qualitative inquiry may be best for describing complex phenomena and reframing questions (Berliner, 2002; Zeichner, 1999). Rosenshine and Farst (1973) proposed a paradigm in which descriptive, correlational, and experimental studies can all be used in sequence to increase understanding of a particular issue. “When properly applied, quantitative and qualitative research tools
can both be employed rigorously and together often can support stronger scientific inferences than when either is employed in isolation” (Feuer et al., p.8).

An example of how both methods can be used effectively is Butler’s (2001) research that gathered both quantitative and qualitative data to examine how candidates in music education develop their views of teaching. In the study, undergraduate candidates used a concept-mapping activity to diagram their ideas of teaching effectiveness. Candidates then participated in two videotaped microteaching activities that were scored by three independent, trained judges using STE and a time sampling procedure. Participants also viewed videotapes of their own teaching, which they self-evaluated based on criteria presented in class. At this point, the candidates completed a second concept map, and both sets of maps were scored for specific criteria. Participants were then interviewed and asked to reflect on their microteaching experiences.

Quantitative results showed no significant change in STE scores of teaching performance, time sampling scores, or scoring of the concept maps from pre-to postteaching. During the interviews, however, several students explained how their thinking regarding teaching had changed as a result of the microteaching activities. Some reported a greater understanding of the role that planning played in teaching and others said that they began to think more critically about teaching.

Butler’s (2001) study pointed out the difference in ways knowing with quantitative and qualitative research. The quantitative measures showed no significant change, yet some of the participants described ways in which they perceived that their
views had changed. As qualitative researchers examined the lived experiences of participants, their perceptions and reflections mattered (Beynon, 1998; Britzman, 1991; Lortie, 1975). For example, Grant and Drafall (1994) reported on the importance of cooperating teachers and interns holding productive conferences, and the influence of conferences on the progression of interns through developmental stages. Schleuter (1991) reported on the value of encouraging developmental thought processes in interns through dialog. Schmidt (1994) found that discussing interns’ perceptions could lead to dialog about the factors that influenced those perceptions, which could, in turn, lead to changes in teaching behavior.

There are three developmental stages that interns should go through during the placement (Broyles, 1997; Stegman, 2007). In the first stage interns are concerned with their own performance and see the students almost as a dissociated audience. In the second stage, they become aware of the pupils and want to look like a good teacher to get a desired response from their pupils. In the third and most desired stage, interns are concerned with the learning and achievement of their pupils (Grant & Drafall, 1994). They are willing and able to change their teaching during the lesson to help the pupils learn. Grant and Drafall emphasized the point that interns could be encouraged to move through the levels of development by discussions with a skilled cooperating teacher during conferences. Collegial discussion could lead to improved teaching with interns (Stegman, 2007; Wheeler, 1987). As the music education candidates in Butler’s (2001) study expressed ways in which their thinking had changed, they were indicating an awareness of the new concepts. They were also expressing the fact that
these new ideas had entered their views of good teaching and that they intended to add this richness to their future teaching performance. Following Rosenshine and Furst’s (1973) paradigm, correlational and experimental studies could be designed to study these concepts further and test whether applying these concepts had an effect on the teaching of interns.

**How Interns Develop Their Views of Good Teaching**

Considering the length of time candidates are in school before beginning a placement, it is reasonable to question the claims made about student teaching’s significant effect on interns. Candidates have been in university coursework for 3 ½ years before student teaching (Rideout & Feldman, 2002). They also have had multiple field placements. For example, in the State of Illinois, where this study took place, there must be at least 100 hours of supervised field placements in conjunction with specific courses before student teaching. How much can an intern really learn and change in a student teaching placement of seven or fourteen weeks? The next section will examine how interns develop their views of good teaching.

*Early Influences on Interns’ Views of Good Teaching*

Even before their time at the university, when the future candidates were pupils in K-12 schools, they experienced what Lortie (1975) described as an apprenticeship of observation. Candidates typically have almost 16 years of direct contact with teachers and professors, representing an estimated 13,000 hours (Lortie, p. 61), while
they were in school. Even in younger grades, pupils have protracted face-to-face and consequential interactions with established teachers. Many teachers report that they made personal decisions to go into education while they were young children.

Tabachnick and Zeichner (1984) found that interns’ teaching perspectives tended to develop and grow in a direction consistent with the latent culture that students brought to the experience. The authors use the term latent culture to describe the life experiences and individual characteristics that interns bring to student teaching. Their findings also support the idea that interns are negotiating a professional identity while student teaching (Beynon, 1988).

Schmidt (1998) found that the participants in her study already had views of good teaching based on their experiences as pupils in school. Lortie (1975) found that those planning to teach form definite ideas about the nature of the role at a young age.

While there are elements to early experiences that are similar to an apprenticeship in a trade guild, the extent to which being a pupil can be seen in this light is limited. Pupils see teachers from a specific vantage point and are not acquiring the technical knowledge of the teacher (Lortie, 1975). Pupils are uninformed of the motivations and thought processes behind teachers’ choices and actions and are not included in analysis and evaluation after the lesson. Pupils are not learning about teaching in an explicit and analytical way. They do not see teachers making choices among teaching strategies and they are unlikely to make linkages between teaching objectives and teaching strategies.
Music education candidates may have an image of good teaching in mind even more firmly than candidates in other subject areas. In addition to the opportunity to have early positive experiences with family members or teachers, music candidates can also have early influences from ensemble directors and private studio teachers (Beynon, 1988; Cox, 2002). It is not known whether this more extensive apprenticeship by observation in music makes teacher education different in music than it is for other subjects.

Personal histories seem to have more effect on developing classroom management approaches than the university methods classes or the suggestions of the university supervisor for two student teachers in music (Snyder, 1996). The study reported that family relationships, teacher role models, and previous musical experiences were all part of the personal histories of interns. Cox (2000) found that family members and teachers were early influences on his participants’ decisions to pursue music education. Bergee (1992a) found that 78% of his subjects made the decision to major in music education while in high school, with music teachers and immediate family members being the most influential in that decision.

Music teachers tend to be the primary recruiters for music education as a profession. Bergee (1992a) found that music teachers were the chief sources of positive messages about music teaching, as 81% of the participants received positive messages concerning decisions to pursue music education from music teachers.
Family members (77%) and friends (78%) were sources of positive messages about pursuing music education, but they were also sources of negative messages (family = 24%; friends = 32%).

Schmidt (1998) found that two of the four interns in her study had fathers who were models and examples of making music. One of the interns wanted to be a high school band director like his father, and the second wanted to be a jazz performer like his father, but gradually developed the desire to pursue music education as a career. The other two participants, who did not have strong examples of music as a possible career in their families, chose to go into other occupations rather than music education.

Schmidt (1998) found that the interns in her study already had a template of what constituted good teaching in their view. They appeared to derive the majority of their teaching practices from family influences and their own experiences as pupils and had a strong sense of what would work for them as teachers. They transformed their experiences into principles of education they perceived as both effective and consistent with being themselves.

Beynon (1998) found a similar thought process with her participants. Before the placement started, one of them said, “I have had lots of chances to work with kids, and I already know how to teach” (p. 93). Interns in music often attempt to uncritically replicate what they remembered from their own experience as music students in schools and performing ensembles. They usually “underestimate the difficulties involved in learning to teach” (Beynon, p. 83) because of their familiarity with schools and how they function (Lortie, 1975).
Field Experiences in Teacher Education

In an attempt to strengthen the efficacy of teacher education programs, efforts have been made to increase the relevance of early field experiences in preparing students for student teaching (Kilgore, 1979). There are many aspects of early field experience and mentoring that have elements in common with student teaching. An example of one common element is learning to take on the role of a teacher (Schmidt, 1998; Wolfgang, 1990). All field experiences are directed at helping the novice integrate concepts and skills learned in theory in the university classroom with practice in the schools (R. Moore, 2003; Nierman, et al., 2002).

One question in teacher preparation is, what does it take to develop good teaching practices and to assure that they continue into a successful teaching career? Ideally, coursework, field experiences, student teaching, and mentoring would all work together to help a novice establish good teaching behaviors (Copeland, 1979). For example, microteaching sessions in teacher education are an attempt to establish a teaching cycle that candidates will use later in the classroom (Butler, 2001; Shavelson, 1973). This cycle includes planning, delivery of the lesson, reflecting on the degree of success of the lesson, and evaluating the response of the pupils. In a music education course, the reflective assessment of microteaching by the candidate often includes watching and critiquing a video recording of the lesson (Paul, 1998). Skills learned in university coursework do not always persist even to student teaching (Copeland, 1979; Wheeler, 1987). However, Paul et al., (2002) found a correlation between higher
levels of authentic context learning experiences, such as microteaching, and the initial teaching performance of music interns.

**Difficulties Applying What Is Learned in the University to the School Setting**

Constructivist theory predicted that education candidates would apply what they learned in the university classroom to appropriate situations during field experiences in the classroom (Tjeerdsma, 1998; Wheeler, 1987). However, often the focus in field experiences was on procedural concerns and routine tasks (Kahan, 1999; R. Moore, 2003).

University professors have made efforts to help candidates integrate theory into practice during field experiences, but candidates and mentor teachers have felt that theories learned in the university classroom did not apply to their schools (R. Moore, 2003). Education candidates in preservice education programs do not learn how to discover which methods and strategies to use in everyday specific teaching situations (Rideout & Feldman, 2002; Schmidt, 1998).

**Student Teaching as Part of the Induction Process**

Rather than looking at student teaching as the major activity of a teacher education program, it may be more illuminating to see student teaching as one important part in the process of induction, along with early field experiences, university coursework, and inservice mentoring. Induction and retention of teachers have been regarded as important issues for decades. Schlechty and Vance (1983) reported that 40% of teachers left the profession by the end of the third year, and that
inexperienced teachers left the occupation at a higher rate than experienced teachers. They estimated that only one in ten majors in education actually taught more than 20 years. Twenty years after Schlechty and Vance’s research was published, a study reported that more than a third of beginning teachers left the profession within the first three years, and almost half left after five years (L. M. Kelly, 2004).

Several factors, such as family concerns, an inability to change school placements, and lack of attendance at professional conferences have been associated with attrition rates for music teachers. Those who changed teaching positions more frequently were more likely to stay in the profession. Those who attended a professional conference at least annually were more likely to stay in the teaching profession. The quality of the teacher preparation program also may have an effect, and graduates of higher quality programs may have lower rates of attrition (Madsen, & Hancock, 2002). In addition, a mentoring program for beginning teachers was found to be helpful in areas such as classroom management, knowledge of teaching materials, and planning for instruction (Smith, 1994). An intense mentoring program that included cohort group networking and ongoing inquiry into yielded a teacher retention rate of 94% after four years (L. M. Kelly, 2004).

Music teachers experience many of the same stresses during the induction process that many other teachers do. Even if music teachers do not leave the field, the nature of music teaching as a giving profession makes teachers vulnerable to irritability, decreased productivity, and physical health problems (Nieman et al., 2002). It is important for music educators periodically to evaluate what provides
Music is a subject that requires teachers to continue to grow professionally even when they are full-time teachers (Conway, 2002). Good music teachers continue to learn and improve with experience and further education. Factors associated with high levels of job satisfaction for music teachers include discussions with music colleagues, interactions with students, and opportunities to make music (Pembrook & Fredrickson, 2000–2001).

Issues of induction were not unique to the USA. A shortfall of qualified music teachers also existed in the United Kingdom. Cox (2002) found that several of his participants in the U. K. pursued music first for the love of the subject and came to teaching later out of vocational necessity. Cox mentioned no early field experiences for these interns, meaning that they entered student teaching with very little experience taking on the role of teacher. These interns had nearly completed their teacher education programs before they understood what it would be like to be a music teacher. One intern found that he really did not care about his pupils. Another reportedly discovered that teaching involved working with children. Only seven of ten completed student teaching successfully.
Successful Student Teaching Experiences

The Effect of Student Teaching Placements on Interns

Some studies have focused on the teaching perspectives of interns during a placement (Stegman, 2007; Wheeler, 1987). Tabachnik and Zeichner (1984) found that student teaching contributes to the development of pragmatic techniques that get a class through required lessons in a quiet and orderly manner. This perspective sees the techniques as ends in themselves rather than as means to a greater educational purpose. Krueger (1987) found that the existing structural organization of the school setting highly influenced interns' perspectives toward their teaching roles.

The Effect of Cooperating Teachers on Interns

Teacher education programs put great trust in cooperating teachers to serve as guides and role models for interns. Is this trust justified? Some studies indicate that it is. R. D. Price (1961) showed that interns' attitudes and teacher behaviors became more like their cooperating teachers' during the course of the placement. Interns were both pre- and posttested using Minnesota Teacher Attitude Inventory (MTAI) and Sanders' Observation Schedule (SOS). The cooperating teachers, however, were only tested at the beginning of the term in this study.

Other studies showed that cooperating teachers saw helping interns as the sole purpose of the placement and saw letting interns experience the daily routine of teaching as their role (Tjeerdsma, 1998). Cooperating teachers have a larger
knowledge base, have their knowledge more integrated into complex interrelated schemata, and utilize their knowledge more effectively than do interns (Meijer, et al., 2002). By example and attitude, cooperating teachers influence interns, both with specific management techniques and with classroom environments created for them. For example, when cooperating teachers demonstrate effective classroom control, it helps interns. Specific techniques that were successful included establishing classroom rules, applying these rules consistently, maintaining pace, and keeping eye contact (Snyder, 1996). Bisset (1993) found that a combination of peer coaching, observation, and modeling of specific teaching approaches by the cooperating teacher helped interns to learn to appropriately apply their knowledge to the classroom setting.

Copeland (1977) found that the primary factor in whether interns persisted in using a particular skill or not was whether cooperating teachers used that skill. He also found that interns persisted in using new teaching approaches in new settings if they perceived that the new approaches fit with the classroom ecology. Copeland defined classroom ecology as the combination of the school setting, the characteristics of the pupils in the class, the cooperating teacher's expectations for the pupils in the class, and the interaction of those expectations with a personal teaching style.

When interns compared the expertise of their teacher education professors or their university supervisors to that of their cooperating teachers, interns reported that their cooperating teachers’ knowledge was better suited and more closely related to daily teaching practice. Researchers believed that skilled teachers selected to be cooperating teachers tended to have developed a practical knowledge that underlay
their teaching through experience and reflection on that experience (L. M. Kelly, 2004; Meijer, et al., 2002). Kahan et al. (2003) found that cooperating teachers tended to concentrate their comments to interns on the categories of management and presentation of subject matter. In this case, cooperating teachers were chosen based on their teaching expertise rather than their supervisory expertise, and fewer than half of cooperating teachers had any supervisory training.

Seperson and Joyce (1973) found that cooperating teachers had an almost immediate and continuing effect on their interns' communication. Very shortly after the beginning of the placement, four types of communication with the pupils by interns and cooperating teachers had become more similar. This effect did not increase after this point, but it did persist at the same level through the length of the placement. The authors speculated that interns almost immediately gained an intuitive understanding of how the classroom functioned under the cooperating teacher, and took that approach in an effort to teach in a way that would work in that setting. The authors proposed a follow-up study, but did not complete it for unknown reasons.

Despite reports of influence, interns do not passively become like their cooperating teachers. In one study, teaching perspectives of interns solidified but did not change during the time of their placement. Interns became more articulate and more skillful in implementing what they already possessed at the beginning of the semester. They gained confidence to implement their preferred pedagogies. The tendency was for teaching perspectives to develop and grow in a direction consistent with perspectives that interns brought to the experience. Therefore, the authors reject
both the view that socialization is totally determined by previous experiences and the view that student teaching exerts a powerful and homogenizing force on interns. Instead, they see teacher socialization as a negotiated and interactive process (Tabachnick & Zeichner, 1984). This conclusion is in agreement with three studies in music (Bergee, 1992a; Cox, 2002; Snyder, 1996).

Though interns often comment that student teaching helped them to learn what teaching was all about, they are not merely passive receptacles of expert knowledge. Some interns in music showed resistance to managing a class as their cooperating teachers did (Beynon, 1998; Brand, 1982). Tabachnik and Zeichner (1984) found that some interns practiced “strategic compliance” (p. 33). They acted in the way demanded by their situation even though they continued to have strong personal objections to those actions.

Interns in music negotiated a professional identity during the period of student teaching (Beynon, 1998). The actions of interns were the result of a continual interplay between intentions of individuals and constraints of the institution (Tabachnik & Zeichner, 1984). If interns believed that their cooperating teachers accepted them, they were more willing to be influenced by their cooperating teachers. Cooperating teachers who made the greatest impact on the interns’ thought and practices listened actively to their expressed intentions and concerns, addressed those intentions and concerns, and only then led the intern to consider alternatives (Schmidt, 1998).

Schleuter (1988) found that cooperating teachers integrated curricular goals into their personal teaching style so seamlessly that interns could not identify those
goals through observation alone. Cooperating teachers wrongly assumed that their ability to integrate curricular goals into their lesson delivery was obvious. Because of this, cooperating teachers, along with other stakeholders in the process, should try to develop explicit descriptors of the expectations of interns and ways that interns can demonstrate the expected behavior (Woods & Weasmer, 2003). Dialog between intern and cooperating teacher is a way to help interns understand this process (Talvitie, et al., 2000).

Differences in cooperating teachers’ feedback may be due to differing styles of oversight. Kahan, et al, (2003) characterized two styles of supervision: direct, placing greater emphasis on the content of the oversight process and less on the interpersonal relationship; and indirect, placing more emphasis on the relationship between the intern and the cooperating teacher and the rapport that they have developed.

Benefits of Cooperating Teachers Who Are Trained and Difficulties in Recruiting Trained Cooperating Teachers

The many confounding variables in student teaching make it difficult to isolate a particular variable for examination. For example, though a training program in supervision for cooperating teachers improved student teaching (Wheeler, 1989), in practice such a program proves to be impractical for many institutions. Most researchers in music student teaching have found it difficult to enlist cooperating teachers who would support and participate in various protocols in supervision. The
learning contexts and instructional settings are independent of the researcher’s control (Rideout & Feldman, 2002).

Perrodin (1961) found that interns who were placed with the trained cooperating teachers showed significant gains on *Minnesota Teacher Attitude Inventory* (MTAI) compared with those whose cooperating teachers were not trained. Wheeler (1987) also found benefits for student teachers placed with trained cooperating teachers. Her study compared untrained cooperating teachers with those who had a three-credit semester-long graduate course in supervision that included: (a) human relations behavior, (b) goal-setting skills, (c) observation and analysis skills, (d) feedback techniques, and (e) conferencing skills. Cooperating teachers who had been trained in supervision inducted their interns more gradually into the whole process of teaching, including lesson planning, instruction, and evaluation of instruction. Trained cooperating teachers were more specific in their evaluative feedback, both positive and negative. They were more stable in their comments and professional relationships with their interns and were more fluent in speaking about teaching. The professional rapport between cooperating teacher and intern was more positive. Kahan (1999) reported that training cooperating teachers resulted in more substantive feedback, more supervisory intervention, and more autonomy for the interns.

One important finding of Wheeler’s study was that with trained cooperating teachers, the interns more often experienced reflection and discussion of effective teaching strategies and an easy rapport. A crucial result was that these interns
“generally reported a role change from that of a student to one of teacher by the end of the experience” (Wheeler, 1987, iv). Untrained cooperating teachers, conversely, tended to immerse the interns too quickly in situations for which they were not prepared. They often had to pull the interns back to less responsibility because the interns had problems with teaching tasks. Professional rapport between interns and untrained cooperating teachers was often strained (Wheeler, 1987).

Kilgore (1979) found that several goals could be accomplished by instructing cooperating teachers in models of teaching. After this instruction, cooperating teachers had a better sense of what the university wanted them to demonstrate for their interns and what teaching behaviors the university wanted them to encourage. Interns looked to their cooperating teachers for models of teaching and that competencies demonstrated by cooperating teachers transferred to interns. Training of cooperating teachers and interns in specific teaching models was done in the same setting, and this may have encouraged a more productive relationship between interns and cooperating teachers (Kilgore).

Possible Benefits of the Placement for Cooperating Teachers

Social constructivism predicts that a reciprocal influence exists in the mentor/protégé relationship and interactions. There have been a few studies in PE of the impact of taking on the cooperating teacher’s role for the cooperating teachers themselves. Tjeerdsma (1998) examined cooperating teachers’ (N = 7) experiences in and perceptions of the student teaching practicum, as well as the impact of the
practicum on their beliefs about teaching. The participants saw serving as a professional responsibility. Six of seven enjoyed the experience and would do it again, but agreed that they did not change the way that they taught as a result of the placement.

Cooperating teachers seemed better able to express their ideas after the placement than before. They reported increased reflection on their own procedures and teaching skills. Six of the seven cooperating teachers reported a sense of revitalization because of the interns’ new ideas and enthusiasm for teaching (Tjeerdsma, 1998).

Brink et al (2001) used both observational visits and interviews to study the effects of hosting interns on cooperating teachers. Cooperating teachers increased their reflection on their own teaching. Reasons for that increased reflection included discussions with the interns and new ideas brought to the classroom by the interns.

One perception of the role of cooperating teacher is that of being a mentor (Tannehill, 1989). Cooperating teachers wanted to give back in response to those who had helped them early in their careers. They all reported that their enthusiasm for working with children was boosted tremendously when they served as cooperating teachers (Tannehill, Tjeerdsma, 1998). Other positive results included a sense of improvement in their own skills and increased clarification of their own ideas (Tjeerdsma).

S. E. Miller (1997) found that cooperating teachers in various subject areas saw interns as agents of change in the areas of school culture, cooperating teachers’ professional development, and classroom practices. Another study in a variety of
subject areas found that being a mentor increased the cooperating teachers' self-image and sense of value (Brink et al., 2001).

In addition to the positives, cooperating teachers also reported negative impacts of the practicum on their professional lives, including feeling uncomfortable with interns at the beginning of the placement. They also reported some disappointing aspects of serving as cooperating teachers and spoke of unmet expectations (Tjeerdsma, 1998).

Some effects had both positive and negative aspects. For example, while more time was required to observe and perform other tasks early in the placement, this was balanced with more time for planning later in the placement when interns were teaching some, or all, of the regular teaching load. As another example, some cooperating teachers felt discomfort when the university supervisor observed, though others valued the three-way conversations with the university supervisor, intern, and cooperating teacher (Brink, et al., 2001).

**Possible Changes in Cooperating Teachers Due to the Placement**

Tjeerdsma (1998) found that, though the length of this practicum was short (seven weeks) compared to a career in education, the cooperating teachers did reflect more on their own teaching during the placement. Social constructivism says that change will take place gradually, and that this reflection could be a first step toward true development and change of practice on the part of the cooperating teacher. As
with most, this study did not compare the pre- and postpracticum video recordings to see if the cooperating teachers changed their teaching practices.

However, there appears to be very little research about the long-term effects of supervising interns on cooperating teachers. Tannehill (1989) addressed this issue in a study of cooperating teachers who had hosted more than 50 interns in total from the same institution. In two interviews, they cited many benefits to their own teaching, including being able to keep up with current trends in their field because of their interaction with university faculty, and sharpening their own teaching skills.

**Delimitations**

Researchers in music education have a valuable long-term goal of examining student teaching in music to make recommendations for improving the experience. There are several reasons why my study was unlikely to result in specific recommendations to affect student teaching in music directly. First, my study had no prescribed treatment or protocol. I did not have a training program for cooperating teachers, a specific observation instrument for them to use, or a type of interaction I requested for them to pursue. This study was descriptive rather than prescriptive; I wanted to look at what was happening rather than recommend what should happen.

**Summary**

What is the role of student teaching and how can we better understand it? Experimental research designs such as randomized clinical trials can result in
statements of causality and encourage evidence-based practice in teacher education, but the complexity of student teaching makes it difficult to isolate variables for study. It may take the efforts of many researchers over a number of years to identify, validate and recommend specific teaching behaviors. In addition, it may take several more studies to show how to increase the desired behaviors. By contrast, studies in student teaching tend to be one-time doctoral dissertations with little follow up. My study gathered categorical scores through STE and global ratings by experts. Some studies effectively gather and use both qualitative and quantitative data. I gathered qualitative data through interviews.

What do interns expect from student teaching? Candidates come to their teacher education programs with strongly held views of good teaching based on their family histories and experiences as pupils. Field experiences allow candidates the opportunity to apply what they have learned about teaching in university coursework to the school setting. Authentic context learning experiences, such as microteaching, can encourage that application.

What is the role of cooperating teachers? Cooperating teachers see their role in student teaching as helping interns experience the daily routine of teaching. Training programs for cooperating teachers have benefits for both cooperating teachers and interns, but training programs are difficult for universities to require or implement.

Interns in music are negotiating a personal identity as teachers that must fit with their sense of themselves. Interns are more willing to be influenced by cooperating teachers who accept them.
How does taking on the role of cooperating teacher affect the cooperating teachers themselves? Many experienced an increase in reflection on their own teaching as they worked with interns. Taking this role helped them to stay current with developments in their field.

This was a descriptive study that was designed to understand how interns and cooperating teachers change in their teaching performance during a student teaching placement. It was not designed to make specific recommendations to improve student teaching.
CHAPTER III

METHODS AND PROCEDURES

This study examined the teaching performance of cooperating teachers and interns in music during the length of a student teaching placement. It also examined influences of cooperating teachers on the teaching performance of interns in music and the reciprocal influence that interns had on the teaching performance of their cooperating teachers. To do this, I enlisted participation of five intern-cooperating teacher pairs (dyads). Each dyad video recorded four teaching episodes for analysis. Each intern and cooperating teacher recorded one lesson at the beginning and end of the student teaching placement with the same class, resulting in 20 recorded teaching episodes.

Institutional Review Board Approval

To obtain Institutional Review Board (IRB) approval for my research protocol before recruiting my participants, I submitted my protocol and revised it as needed. I included a recruiting flyer (Appendix E) and informed consent documents (Appendices F & G) in my proposal, using IRB examples as initial models. In these documents I described the study, the nature of the participants’ contribution, the
guarantees of confidentiality and privacy, and the potential benefits of participation, including financial remuneration. I then gained IRB approval both at the University of Oregon and at Trinity International University where I presently teach.

Carrying Out the Study

Recruiting Participants

I contacted music education professors throughout the State of Illinois by sending a one-page recruiting flyer (Appendix E) and copies of my informed consent documents for interns and cooperating teachers (Appendices F & G) to 26 Collegiate Music Educators National Conference (CMENC) advisors in Illinois via US mail and e-mail. Approximately one week later, I called the advisors and either spoke with them or left messages. I also made personal contacts with music education professors at professional conferences. Finally, I made personal visits to 11 campuses to meet music education professors and ask for their help in recruiting participants.

To control for some of the multiple variables of the process, I stipulated that all the interns be enrolled in traditional four-year teacher education programs in the State of Illinois. In Illinois, all music teachers earn a K-12 teaching certificate in music. Interns in music in Illinois have a split placement with one placement in elementary grades and one in secondary grades. I also requested that all of the episodes be with general music classes in fifth grade, and that all four video recorded episodes in a dyad be of the same class. I further requested that the entire lesson should be videotaped
with the teacher in view of the camera as much as possible, as pupil behavior was not
the focus of this study. These stipulations helped the lessons to be as equivalent as
possible in terms of vocabulary, intricacy of activity, and pupil attention span.

At the time that I was recruiting participants for my study, CMENC chapters in
Illinois had about 600 members. I learned that some of the larger schools in Illinois
had more than 20 interns during each semester, and that the statewide total of interns
was greater than 80 per semester. Several music education professors expressed
interest in my study, and presented my study to their candidates.

Interested Potential Participants

Sixteen teacher education candidates responded to my recruiting efforts. My
research protocol required the candidates to obtain school district permission on
letterhead before any video recordings were made. Of the 16 candidates who
responded, two could not participate because their placements began before we were
able to obtain school district permission. Nine of the other candidates were unable to
get school district permission, decided not to participate, or had cooperating teachers
who did not want to participate.

Five principals approved participation either with or without other
requirements. As an example of an additional requirement, one principal required that
the honorarium for participants be used for classroom supplies or equipment. Four
principals gave approval but restated the confidentiality protocols as presented in the
sample letter (Appendix H).
Participants and Gathering Data

The five participating dyads were those who obtained all of the necessary approvals in a timely manner and video recorded the teaching episodes. I was the university supervisor for two of the interns. With these dyads I had two roles simultaneously: researcher and university supervisor. The other six participants (from three dyads) were unknown to me at the start of the study. Interns and cooperating teachers worked together to complete the video recordings of the episodes and send them to me. Within the stipulations of my recruiting flyer, participants were self-selected. I used all of the recorded episodes that I obtained. I would have included more participants in the study if I had had that opportunity.

Participants completed a one-page demographic survey (Appendices A & B) with information regarding factors that previously were identified as important to student teaching. An example of one such important factor is whether the cooperating teacher had training for hosting an intern.

Five Dyads

There were four females and one male among the interns and four females and one male among the cooperating teachers (CTs). The first dyad had a male intern with a female CT. The second dyad had a female intern with a male CT. The other three dyads had females as both CTs and interns.

The interns came from four different music education programs—one large (20,450 students) state university and three small (800-2,500 students) private
colleges. Their CTs had been teaching from 4 ½ to 37 years and had hosted from 0 to 15 interns. None of them had any specialized training for hosting interns, although one had a master’s degree in supervision and curriculum and one had participated in a mentoring program for beginning teachers in her district.

Dyad 1 included the only male intern, who was a candidate in a small private college (800 students) about 15 miles from his elementary school placement. The placement was full day for seven weeks, as were the placements for three of the other four interns. CTI had taught music full-time for 17 years, including 13 in elementary general music. Her academic background included a bachelor’s degree and a master’s degree in music education from state universities with strong music education programs. She had been in her current school for one year at the time she hosted the intern for this study. She had no specialized training for hosting interns, and this was her first experience doing so. By the time of the interview for this study, she had subsequently hosted another intern from the same college.

The placement was at a mid-sized elementary school (362 pupils) that bordered and predominantly served the pupils from a military base. The school was in a district of 10 elementary schools with a total pupil population of 4,074. The pupil population of the school for Dyad 1 was 60% Black or African American, 20% Hispanic, 16% White Non Hispanic, and 2% Asian (National Center for Educational Statistics [NCES], 2009d), and 75% of the pupils qualified for free or reduced-priced lunch because of low household income. This school had the lowest per pupil expenditure
($6,673) of any of the dyads’ schools. The others ranged from $7,243-$10,231 per pupil per year.

Dyad 2 included the only male CT. He had 21 years of teaching experience, 20 of which were in this school. He had a bachelor’s degree in music education from a small liberal arts college and a master’s degree in music education with an emphasis on supervision and curriculum from a college of music, but no specialized training for hosting interns. He had not hosted an intern previously. The intern had graduated from the school of her placement nine years previously and was a pupil of her CT. She was a music education candidate at the same small private college as the intern in Dyad 1, which was about an hour’s drive from the placement. This placement was in the only private school in this study and included grades K-8 (493 pupils). The K-6 pupil population was 377. The school had a per pupil expenditure, of slightly more than $8,000 per year. The pupils at this school had elementary general music from kindergarten through fourth grade. In fifth grade, they had the choice of band, string orchestra, or choir. This was the only dyad that video recorded episodes that were not of elementary general music classes. The class in Dyad 2’s teaching episodes was a fifth grade girls’ choir. The intern split her time each day between two CTs in the school in a seven-week full day placement. I was the university supervisor for Dyads 1 and 2. The pupil population in this school was 93% White Non Hispanic, 4% Asian, 2% Black or African American, and 5% Hispanic (NCES, 2009c). The school does not publish data on the percentage of pupils who qualify for free or reduced-price lunch.
The majority of pupils (88%) come from surrounding suburbs that are above average in socioeconomic status.

Dyad 3 had the youngest of the CTs. She had a bachelor’s degree from a state university with a strong music education program and had been teaching 4½ years in the school at the time of the placement. The CT had no specialized training in supervision and had not hosted an intern previously. She and her intern attended the same large state university (20,450 students) approximately six years apart. Both participants had some of the same professors when they were candidates in the music education program at that university. The university was about a three-hour drive from the elementary school in the placement. The placement was in a mid-sized elementary school (566 pupils) in a well-funded suburban district ($9,063 per pupil expenditure). This intern split her time between a high school and the elementary general music placement for the entire 14-week semester. Generally this meant that she spent mornings at the high school and afternoons at the elementary school, but there were days that were exceptions to this schedule if one of the schools had a special event. The school district had 31 elementary schools with a total pupil population of 28,764. The pupil population of the school was 64% White Non Hispanic, 23% Asian, 5% Black or African American, 4% Hispanic, and 4% other (NCES, 2009d). This school reported no pupils that qualified for free or reduced-price lunch because of low family income.

Dyad 4 included a CT who had taught elementary general music for 37 years in this school. She held a bachelor’s degree from a large state university with a strong
music education program. She had hosted an estimated 15 interns previously, but had no specialized training for working with them. The intern was from a small private college (2,500 students) a few miles from the placement. The school in the placement was a large elementary school (635 pupils) in a diverse district that included urban, suburban, and rural areas and had a per pupil expenditure of $8,536 per year. The district had six schools in K-12 with a total population of 3,438 pupils. The school population was 84% White Non Hispanic, 8% Asian, 5% Hispanic, and 3% Black or African American (NCES, 2009d). The school reported 10% of its pupils qualified for free or reduced-price lunch.

Dyad 5 included a CT who was in her 27th year of teaching elementary general music in this school. She held a bachelor's degree from a large state university with a strong music education program and was also National Board Certified by The National Board for Professional Teaching Standards. She had participated in a school district training program as a mentor for new teachers, but had no specialized training for hosting interns. She had hosted six or seven interns over the years. Her intern came from a small private college (2,400 students) about 20 miles from the placement. The school was a medium-sized elementary school (438 pupils) in a district that had per pupil expenditures of $10,231 per year. The district had 9 schools in Grades K-8 with a total of 4,007 pupils. The school population was 93% white, 4% Asian, 1% Hispanic, and less than 1% other (NCES, 2009d). The school did not report statistics on free and reduced-price lunch. The intern was in a full-day placement for seven weeks.
Video Recorded Episodes

Each of the five dyads video recorded four teaching episodes with the same class: one each of the intern and CT at the beginning of the placement and again one each at the end of the placement, for a total of 20 video recordings. Each episode was the length of a regular music lesson. Although I requested that the prepracticum episodes be recorded near the beginning of the placement, I also requested that the recordings all be of the same fifth grade class. Interns tend to start teaching one grade at a time until all grades are included a few weeks into the placement and the intern eventually teaches the full day. It is possible that interns did not teach fifth grade classes at the beginning of the placement, meaning they had already taught some lessons with other grades before the video recordings were made.

The eight episodes from Dyads 2 and 5 were of lessons preparing classes for public performance. This included four episodes of a fifth grade girls’ chorus with Dyad 2. Additionally, all four from Dyad 1 were of lessons in which about half of the class time was spent preparing for a public performance. Only the episodes of Dyads 3 and 4 (n = 8) were of general music classes that were not preparing for a public performance. Each dyad recorded regularly scheduled lessons with the same group of pupils each time.

Compiling Data

Upon receiving all of the surveys, signed documents, and video recorded episodes, I randomized the order of the episodes, duplicated them, and sent copies of
the video recordings to two recognized experts in teacher education who were also experienced university supervisors. These experts watched the 20 episodes in the prescribed order and scored each one according to the 30 items of the STE (Appendix C). They assigned a score from 1–5, with “1” being “Poor” and “5” being “Excellent” for each item. They did not add the scores of the items.

The expert raters also assigned a comprehensive rating of each lesson’s overall quality on a scale from 1-100 with a rating of 100 indicating an excellent lesson. I did not define an excellent lesson for them, but trusted their expert opinions of good teaching.

After receiving the completed STE forms and the comprehensive ratings, I added the item scores on the STE and arrived at a final score according to the formula included on the last page of the STE. The scores of the items were combined into 10 categorical scores entitled: Posture, Eye Contact, Gestures, Facial Expression, Vocal Inflection, Evidence of Lesson Planning, Subject Matter Competence, Pacing, Sequencing Pattern, and Teaching Style. The 10 categorical scores were then compiled by another given formula to yield subscores for the categories of “Lesson Delivery Skills” and “Planning and Presentation of Lesson.” These subscores were then added to yield a total score with a maximum of 50. I entered all of the STE item scores and STE total scores as well as the comprehensive ratings into a file for analysis with Statistical Package for the Social Sciences (SPSS).

Next, I viewed the video recorded episodes in the same randomized order as the expert raters had used. I analyzed statements of reinforcement, categorizing them
as approval or disapproval and specific or nonspecific (Yarbrough, et al., 1992). I classified general comments such as “Okay,” “All right,” and “Good” according to their usage in context. In order to account for every general statement that could have been seen as a reinforcement statement, I labeled every such statement as either a nonspecific approval or as nonfunctional. If the general comments were approvals of what the students had just done, I classified the comments as nonspecific approvals (H.E. Price, 1992). I tallied general comments that were not approvals or disapprovals and classified them as nonfunctional comments. “A frequently verbalized “good”— despite pupils’ inappropriateness or inaccuracies—does not constitute approval” (Madsen, et al., 1992, p. 23). These could also be called verbal mannerisms or vocalized pauses. As examples of nonfunctional comments, one participant often said “Okay” in the middle of several directions. She said this as if wanting a response from her pupils, but she did not wait for a response and her pupils gave no response before she proceeded. Sometimes “Okay” was used as an attention-getting device, as in, “Okay, take out the next piece.” Another participant often said “Good” after pupil responses, even when the responses were wrong and he was about to correct the pupils.

A reliability observer watched two of the five episodes in each of four categories (40%): intern prepracticum, intern postpracticum, cooperating teacher prepracticum, and cooperating teacher postpracticum. The reliability observer agreed with my analysis for more than 95% of the events tallied. We discussed discrepancies and arrived at consensus for those events about which we initially disagreed.
Quantitative Analysis

I did a statistical analysis of the quantitative data using SPSS. For all of the quantitative analyses, I separated the data into four categories: intern prepracticum, intern postpracticum, cooperating teacher prepracticum, and cooperating teacher postpracticum. I looked for significant differences between interns pre- and postpracticum, and between cooperating teachers pre- and postpracticum. I also combined both times and looked for differences between interns and cooperating teachers, and combined teacher type and looked for differences between pre- and postpracticum.

STE Scores

The expert raters assigned scores from 1-5 for 30 items on the STE (Appendix C). Following the directions on the last page of STE (Appendix C), I used the given formula to calculate a total score from each rater for each episode. The scores of the items were combined into 10 categorical scores. The 10 categorical scores were then compiled by another given formula to yield subscores for the categories of “Lesson Delivery Skills” and “Planning and Presentation of Lesson.” Continuing to follow the directions, these subscores were then added to yield a total score with a maximum of 50.

I analyzed STE scores for each episode from each rater using a two-way within-subjects analysis of variance (ANOVA). I also added the STE scores from the two raters and analyzed the combined scores using ANOVA. I then totaled the global
ratings of the episodes by both raters and analyzed the combined ratings for each episode using a two-way within-subjects ANOVA.

Additionally, I analyzed the tallies of reinforcements using ANOVA for two comparisons (as with the other data, pre- to postpracticum, intern to CT). Because the 20 episodes were of varying lengths, I made comparisons of the ratios of the number of comments in the various categories rather than simply adding total comments. I also compared tallies on a comment per minute basis for the categories because the episodes were of different lengths.

**Interviews**

*Revised IRB Approval*

To illuminate the data I had received from the quantitative analysis, I submitted a revised human subjects protocol to the IRB and gained approval to conduct follow-up interviews with my participants. I composed a new informed consent document and gained approval for the document (Appendix I), the recruiting script, and the list of questions (Appendix D).

*Interviewing the Participants*

I was able to contact all 10 participants and each agreed to be interviewed. Two of the interviews were conducted in person. The other eight interviews were conducted over the phone. I began each interview with a series of questions (Appendix D), but allowed for follow-up questions on themes that emerged during the interview.
Reliability Checks

I transcribed six of the interviews and an administrative aide at my university transcribed the other four. I reviewed the transcripts of the four interviews that I did not transcribe. A volunteer checked all 10 transcripts for accuracy by listening to the interviews while reading the transcripts. We discussed discrepancies in the transcripts and arrived at an agreement in all cases about the correct transcription. I sent copies of the interview transcripts to the participants as a form of member check. None of the participants reported any disagreement with the accuracy of the transcripts.

Analyzing the Interviews

I generated qualitative data regarding the experiences of the participants during the placement from the interviews by sorting and categorizing responses. I used NVivo8 software to help me with this task. The interviews were directed to factors directly associated with teaching. Issues of personal feelings or values were explored only as they related to teaching. As I analyzed the data, I looked for emerging themes and common understandings of the significance of the student teaching process to their development as teachers.
CHAPTER IV

RESULTS

This study came from my desire to answer questions about whether interns and cooperating teachers (CTs) change in the way that they teach during the time of a student teaching placement. I examined the influence of CTs on the teaching performance and perceptions of interns in music and reciprocal influence, if any, that interns had on the teaching performance and perceptions of their respective CTs. To do this, I enlisted participation by five intern-CT pairs (dyads).

Quantitative Data

I gathered quantitative data with the STE scores, comprehensive expert ratings, demographic surveys, and the tallies of statements of reinforcement and nonfunctional communication. The compiled data are presented in Appendix J.

STE scores reflected the expert raters' evaluation of 30 items related to good teaching. The comprehensive ratings are overall scores of lesson quality of 1-100. The demographic surveys contain information provided by the participants about their previous experiences and preparations for teaching. The tallies were counts of four types of statements of reinforcement (specific and nonspecific approvals and...
disapprovals) and of nonfunctional communication. Means and standard deviations for these variables are presented in Table 1.

Table 1

*Summary of Quantitative Data per Episode Including Survey of Teaching Effectiveness (STE), Global Ratings, and Tallies of Reinforcement*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beginning of placement</th>
<th>End of placement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intern</td>
<td>Cooperating teacher</td>
</tr>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
<td>STE total</td>
<td>78.02</td>
<td>11.26</td>
</tr>
<tr>
<td>Rater total</td>
<td>151.20</td>
<td>27.23</td>
</tr>
<tr>
<td>Specific approvals</td>
<td>16.80</td>
<td>8.64</td>
</tr>
<tr>
<td>Nonspecific approvals</td>
<td>13.20</td>
<td>8.58</td>
</tr>
<tr>
<td>Specific disapprovals</td>
<td>6.60</td>
<td>4.36</td>
</tr>
<tr>
<td>Nonspecific disapprovals</td>
<td>1.40</td>
<td>0.89</td>
</tr>
<tr>
<td>Nonfunctional communication</td>
<td>37.80</td>
<td>39.91</td>
</tr>
</tbody>
</table>

*Note.* Descriptive statistics are based on $N = 5$. 
The main and interaction effects of teacher (intern or cooperating teacher) and time (initial observation or post-practicum observation) were examined in a two-way, within-subjects analysis of variance. There were no significant differences between interns and cooperating teachers, or between initial and post-practicum scores on any of the variables examined. In addition, there were no significant interaction effects for any of the variables. A summary of F-tests for main effects and interaction effects for each variable is presented in Table 2.

*Descriptive Statistics that are Suggestive*

Though none of the comparisons showed significant differences, there were differences that are descriptive and might suggest the need for further investigation. For example, expert raters scored and rated episodes by cooperating teachers higher than those by interns with both STE scores and global ratings of lesson effectiveness (Table 1). When I converted the total STE scores from the two raters into rankings (1-20 with 1 being the highest ranked lesson), the rankings of the lessons indicated a higher ranking for CTs (M=6.5) than for interns (M=14.2).

When I combined the means of the two raters' scores for each dyad on the 30 items of the STE, I found that for every item the CTs scored higher than the interns (see Table 3). This was true for both pre- and postpracticum scores. The scores for each item for interns at each time were lower than the scores for CTs at either time.
However, the scores on the items and the total STE scores for interns and CTs were not significantly different.

Table 2

*F Statistics Evaluating the Significance of Main Effects of Teacher and Time and the Interaction Effect for Study Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Main effect of teacher</th>
<th>Main effect of time</th>
<th>Teacher-by-time interaction effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>STE total</td>
<td>3.17</td>
<td>0.16</td>
<td>0.03</td>
</tr>
<tr>
<td>Rater total</td>
<td>3.78</td>
<td>0.23</td>
<td>0.00</td>
</tr>
<tr>
<td>Rate of specific approvals</td>
<td>2.73</td>
<td>1.72</td>
<td>0.10</td>
</tr>
<tr>
<td>Rate of nonspecific approvals</td>
<td>0.71</td>
<td>2.64</td>
<td>0.00</td>
</tr>
<tr>
<td>Rate of specific disapprovals</td>
<td>0.74</td>
<td>1.73</td>
<td>0.34</td>
</tr>
<tr>
<td>Rate of nonspecific disapprovals</td>
<td>3.28</td>
<td>1.73</td>
<td>1.43</td>
</tr>
<tr>
<td>Rate of nonfunctional communication</td>
<td>6.03</td>
<td>1.21</td>
<td>1.87</td>
</tr>
</tbody>
</table>

*Note.* F statistics are based on 1 and 4 degrees of freedom.
### Table 3

**STE Item Scores – Mean of Combined Rater Scores**

<table>
<thead>
<tr>
<th>Item number</th>
<th>Intern Pre-</th>
<th>Intern Post-</th>
<th>CT Pre-</th>
<th>CT Post-</th>
<th>Gain (loss) Pre- to post-</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7.6</td>
<td>7.6</td>
<td>8.8</td>
<td>9.0</td>
<td>0.2</td>
</tr>
<tr>
<td>2</td>
<td>8.0</td>
<td>8.0</td>
<td>8.8</td>
<td>9.2</td>
<td>0.4</td>
</tr>
<tr>
<td>3</td>
<td>7.6</td>
<td>7.4</td>
<td>8.8</td>
<td>9.0</td>
<td>0.0</td>
</tr>
<tr>
<td>4</td>
<td>7.4</td>
<td>8.0</td>
<td>9.2</td>
<td>9.2</td>
<td>0.6</td>
</tr>
<tr>
<td>5</td>
<td>8.2</td>
<td>7.6</td>
<td>9.2</td>
<td>9.8</td>
<td>0.0</td>
</tr>
<tr>
<td>6</td>
<td>7.8</td>
<td>7.4</td>
<td>9.2</td>
<td>9.0</td>
<td>(0.6)</td>
</tr>
<tr>
<td>7</td>
<td>8.4</td>
<td>7.4</td>
<td>8.6</td>
<td>8.8</td>
<td>(0.8)</td>
</tr>
<tr>
<td>8</td>
<td>8.2</td>
<td>7.4</td>
<td>9.2</td>
<td>9.4</td>
<td>(0.6)</td>
</tr>
<tr>
<td>9</td>
<td>8.0</td>
<td>7.4</td>
<td>8.6</td>
<td>9.0</td>
<td>(0.2)</td>
</tr>
<tr>
<td>10</td>
<td>7.8</td>
<td>7.6</td>
<td>9.0</td>
<td>9.2</td>
<td>0.0</td>
</tr>
<tr>
<td>11</td>
<td>8.2</td>
<td>7.4</td>
<td>8.6</td>
<td>9.6</td>
<td>0.2</td>
</tr>
<tr>
<td>12</td>
<td>7.6</td>
<td>8.2</td>
<td>8.8</td>
<td>9.2</td>
<td>1.0</td>
</tr>
<tr>
<td>13</td>
<td>7.8</td>
<td>7.8</td>
<td>9.0</td>
<td>9.2</td>
<td>0.2</td>
</tr>
<tr>
<td>14</td>
<td>7.8</td>
<td>8.0</td>
<td>8.8</td>
<td>8.8</td>
<td>0.2</td>
</tr>
<tr>
<td>15</td>
<td>7.0</td>
<td>7.4</td>
<td>9.0</td>
<td>8.8</td>
<td>0.2</td>
</tr>
<tr>
<td>16</td>
<td>7.6</td>
<td>7.8</td>
<td>8.8</td>
<td>9.0</td>
<td>0.4</td>
</tr>
<tr>
<td>17</td>
<td>8.0</td>
<td>7.8</td>
<td>8.4</td>
<td>9.0</td>
<td>0.4</td>
</tr>
<tr>
<td>18</td>
<td>7.8</td>
<td>8.0</td>
<td>9.0</td>
<td>9.0</td>
<td>0.2</td>
</tr>
<tr>
<td>19</td>
<td>7.6</td>
<td>7.2</td>
<td>9.4</td>
<td>9.0</td>
<td>(0.8)</td>
</tr>
<tr>
<td>20</td>
<td>7.8</td>
<td>6.8</td>
<td>9.0</td>
<td>8.6</td>
<td>(1.4)</td>
</tr>
<tr>
<td>21</td>
<td>6.8</td>
<td>7.2</td>
<td>8.8</td>
<td>9.4</td>
<td>1.0</td>
</tr>
<tr>
<td>22</td>
<td>7.6</td>
<td>7.0</td>
<td>8.4</td>
<td>9.0</td>
<td>0.0</td>
</tr>
<tr>
<td>23</td>
<td>7.4</td>
<td>7.4</td>
<td>8.6</td>
<td>8.7</td>
<td>0.1</td>
</tr>
<tr>
<td>24</td>
<td>7.4</td>
<td>7.2</td>
<td>8.6</td>
<td>9.2</td>
<td>0.4</td>
</tr>
<tr>
<td>25</td>
<td>8.2</td>
<td>8.3</td>
<td>8.8</td>
<td>9.0</td>
<td>0.3</td>
</tr>
<tr>
<td>26</td>
<td>8.0</td>
<td>8.1</td>
<td>9.4</td>
<td>9.6</td>
<td>0.3</td>
</tr>
<tr>
<td>27</td>
<td>7.2</td>
<td>7.4</td>
<td>9.2</td>
<td>9.4</td>
<td>0.4</td>
</tr>
<tr>
<td>28</td>
<td>7.8</td>
<td>8.4</td>
<td>9.2</td>
<td>9.1</td>
<td>0.5</td>
</tr>
<tr>
<td>29</td>
<td>7.6</td>
<td>7.9</td>
<td>8.8</td>
<td>8.9</td>
<td>0.4</td>
</tr>
<tr>
<td>30</td>
<td>8.2</td>
<td>8.5</td>
<td>9.4</td>
<td>9.1</td>
<td>0.0</td>
</tr>
<tr>
<td>M</td>
<td>7.7</td>
<td>7.6</td>
<td>8.9</td>
<td>9.1</td>
<td>0.1</td>
</tr>
</tbody>
</table>
Qualitative Data

Gathering qualitative data through interviews helped me to gain insight into the relationships between interns and CTs in my study that I would not have gained by looking solely at the video recorded teaching episodes. The interviews allowed me to interact with my participants and to hear their reflections regarding the effect of the student teaching placement on their teaching.

Given the wide variety of the school settings, placement formats, CTs’ backgrounds, and interns’ teacher education programs, it is not surprising that the participants’ gave a wide range of comments. The interview questions were open-ended to encourage divergent answers. There were also some common responses among the participants.

Five themes emerged during analysis of the interview transcripts: fulfilled expectations, effective preparation, capable application, increased professionalization, and successful induction. I consider each of these in the next sections.

Fulfilled Expectations

CTs in my study felt that they had high expectations for their interns, but they felt that the interns had met or exceeded those expectations. When asked about her expectations for Intern 1 (II) during the placement, CT1 stated, “The expectations were a high level of musicianship and very organized skills as far as lesson planning, being able to follow thorough with a teaching plan, and being able to connect with the students on their level.”
CT1 found that I1 had energy and endurance in abundance, and that his placement became a wonderful experience for her pupils. He had a wide range of musical experience and a background similar to that of many of his pupils. I1 used these characteristics to build rapport with them and was able to plan carefully and deliver lessons with clear organization. CT1 said she had no complaints about the placement at all. She commented about whole experience by saying, "I thought it was absolutely wonderful."

CT2 had not hosted an intern before. Consequently his expectations were based on his own experiences as an intern years ago, and he said that working with Intern 2 (I2) was what he expected it to be.

CT3 expected to help prepare Intern 3 (I3) for teaching in the music education field and to provide her with some good experience working with pupils and teaching elementary music. She was also hoping to learn some things from I3 in the areas of creativity, engaging pupils, and to learn "new ways of having fun making music together." She continued, "I feel that both of those things were met."

CT4 stated, "My expectations were very high." She had the most experience as a CT of all those in this study. Based on her past experiences with student teachers from Intern 4's (I4's) college, and her knowledge of that program, she knew that she could realistically have high expectations. CT4 said that I4 met, and in fact exceeded them. Her specific expectations were that I4 would be prepared for her particular assignment each day and that she would be responsible and very comfortable in terms of communicating when something wasn’t clear to her or when she felt she had a
problem. CT4 also expected I4 to get involved with the staff and school life, to attend all meetings and to get to know the teachers and to have lunch with other teachers so that she could hear their comments and opinions on various subjects that were discussed then.

CT4 also felt that student teachers should experience a bit of surprise at how difficult it is to teach children of varying ages, and at:

what it takes to be teaching a 12-year-old one minute and the next minute teaching a five-year-old, literally with one minute, and adjusting your personality and how you interact with kids. I expected that to be a bit overwhelming at first. And it did take her [I4] back, a little bit, but I did expect her, as time went on, to, you know, be more comfortable working with children at the different ages, and that did happen.

CT4 reiterated that I4 met and exceeded every expectation.

CT5 expected Intern 5 (I5) to be highly competent because of the interview that they had together before the placement. I5 observed CT5 teaching in the classroom before the placement began. She asked lots of questions and got to know the school and the music program. To CT5, this showed a commitment to doing a good job on I5’s part.

Interns also entered student teaching with expectations that were met during the placement. I2 wanted to glean teaching ideas from CT2 and see how he taught his classes, to teach under his supervision, “and to get feedback from him for my future.” When asked if her expectations were met, I2 answered, “Oh, definitely.”

Other interns agreed that their expectations were met or exceeded. I1 mentioned that he was thrilled about the placement. He felt like all of the teachers at
his school were supportive of him. He believed that it really helped his confidence to be accepted as an equal member of the teaching staff.

I4 said that she already had a rapport with CT4 from previous field experiences and knew that they would get along well. As the placement began, she was unclear on how much of the teaching day she would be taking over, but was pleasantly surprised that she had full command of the classroom for a large part of the placement. I5 said, “My expectations were met and more.”

Effective Preparation

The interns in this study believed that they were prepared to be successful in student teaching and their experiences in the placement confirmed this belief. The CTs agreed that their interns arrived well prepared by their university music education programs. During the interview, CT2 mentioned two areas of weakness in I2, but also stated two areas in which she was strong. The areas of weakness were keyboard skills and sightsinging. The areas of strength were building rapport with the pupils and using her voice to demonstrate proper choral technique. He saw those areas more as personal characteristics of I2 than as critiques of the teacher education program.

The other four CTs were given multiple opportunities to mention areas that were inadequate in their interns’ preparation, but believed that the interns were well prepared in all relevant areas. The CTs, including CT2, acknowledged that the interns needed to gain experience, but, in their view, that was the purpose of student teaching.
Generally, the CTs believed that the interns came in with all of the tools necessary to be successful in student teaching.

The CTs in this study had no formal preparation or training before the placements, yet they all seemed to enjoy the experience and they felt that they were providing a good situation for their interns. CT4 and CT5 had extensive experience as CTs. CT5 said,

I have had student teachers previously, plus, I’ve also participated in my district’s mentoring program. And I always find that working with young people is really stimulating and refreshing. I probably learn more from them than they learn from me.

Capable Application

Interns in this study agreed with previous studies that found student teaching was a time to bring together many influences and to apply those influences to daily teaching (Bisset, 1993; Karmos & Jacko, 1977; Schmidt, 1998). This means that interns learned to appropriately transfer previous knowledge and experience to new situations (Schleuter, 1991). Four CTs acknowledged that their interns were learning to apply their previous knowledge and experience, but they said that they came to the placement with all of the tools that they needed to be successful in accomplishing that. (The fifth CT described her intern’s improvement more in areas of pacing and responding to pupils during the lesson.) For example, CT2 mentioned that I2 improved in the area of applying good approaches to use with various ages of pupils. As another example, CT4 said that I4:
did improve because she came in with these tools, but not really sure, you know, which ones to use when, with what age levels, and so forth, and how everything would be appropriate, and I think she left knowing that. So, I think that was her biggest improvement.

I5 found that, “Student teaching was probably the best part of my educational process, because you put everything you learn to use and then you learn from your mistakes.” She discovered that, “slowly, as I went on I got more confident.” She repeated that she thought it was definitely the most beneficial part of her education.

*Increased Professionalization*

CTs and interns in this study saw student teaching as a time for interns to take on the role of teacher and to learn some of the parts of the teacher’s role that are best learned in a school setting. The participants also believed that part of being a teacher is negotiating a style of teaching that is suited to the individual teacher’s personality.

During this placement, I2 learned a great deal about the world of collegial relationships with the other teachers in the building. CT2 commented on some things he learned during his own student teaching experience years ago. He particularly recalled his discovery that many aspects of teaching that he learned as an intern were things that could not be learned in the university classroom. Examples were things such as, “protocol, and learning how to work with fellow employees and administration, and filling out forms.”

I3 said that she improved, “not so much in the part of how to teach concepts and things like that, but more … in how to treat students, and how to handle issues
that arise, and how to be a colleague within the school.” I3 said that CT3 made her feel very comfortable from the beginning of the placements. She learned that from CT3 and took that quality with her after the placement. I3 felt it was a very positive placement.

CT4 felt that I4 did an excellent job at becoming part of the staff, being very visible at open houses, speaking with parents, and attending programs. CT4 felt that I4 went beyond her expectations in these areas. Conversely, I4 admired CT4’s collegial relationships with other members of the teaching staff at her school.

*Negotiating an identity as a teacher.* Previous research states that interns are negotiating an identity and trying to find a way to be themselves during student teaching (Beynon, 1998; Schmidt, 1998). I1 said that CT1 encouraged him to be himself by saying that he would teach best when he was himself. He found that he related to the pupils best when he would draw from his own experiences growing up and teach his own way. He came to the realization that he could not really shy away from being himself.

CT1 saw that, for I1 and the intern she hosted the next year, learning to be themselves was connected to effective classroom management. She said that they were almost like robots in following their lesson plans at the beginning of the placement. She noted that:

It was a very rocky transition between one [activity] and the other, but after the first week, things started smoothing out, and, transition, you couldn’t even see that there was a transition after a while. And their personalities took over, and, you know, it was just a really good cooperation between the kids and them, and as far as classroom behavior, they really, towards the end of their eight
weeks with me they were on it. They were really, really good with classroom management skills, so I was very impressed.

CT3 observed that she and 13 were similar in many ways. She thought that was because they had similar backgrounds and personalities, not because she was trying to make 13 into someone she wasn’t.

I4 reiterated CT4’s ability to teach in her own way, while still encouraging I4 to be herself. I4 felt free rather than coerced. CT4 commented on this subject, “I don’t think she felt that she had to teach a certain way or [use] my organization of how I did my class. She felt very free to try it her way.” CT4 wanted I4 to feel free “to use [student teaching] as a platform to try her ideas.” Their teaching styles were different in many ways, and CT4 said, “I hope now that I’ve blended a little of hers and she’s blended a little of mine.”

CT5 stated that she was willing to co-teach when IS needed someone with stronger piano skills, but she was quite firm in stating that she never pushed IS “into a position where she didn’t feel like she could be herself.” CT5 said of IS that, “toward the beginning she would model me, out of her being, perhaps, a little insecure. But … I could definitely see that, as time went on, she felt comfortable with being herself. I think that’s really important.”

Regarding negotiating an identity, CT5 said of IS:

Within the last week of her teaching I definitely felt that she was opening up and I could see her sense of humor coming out with the kids. She was just having more fun and to me that means she was being herself.
Growing and improving as a teacher. All of the participants saw being a teacher as a process of continuous growth and development and saw the student teaching placement as a part of that long-term process. The interns all viewed reflective assessment and self-evaluation as essential to learning to be a teacher. 11 felt as though his horizon had been expanded during the placement, but there was still more to learn as a teacher. For example, both of his CTs encouraged him to always invite other educators to critique his teaching and to allow third parties to speak into his practice. CT1 told him, “... always be reflective of your process.”

The CTs saw hosting interns as an opportunity for their own professional growth. When asked if she improved as a teacher during the student teaching process, CT1 answered directly, “I think I have improved.” She stated that there was a lot of sharing back and forth of ideas with her intern, and that they both learned many new ways of doing things from each other.

When asked if she thought she had improved as a teacher during this placement CT4 answered, “Oh, yes, I definitely do. I think that those things that I was able to kind of add to my repertoire because of her, you know, have definitely made me a better teacher.”

CT4 said that 14 brought in some new approaches that she had never thought of before and they worked very well. She was able to sit back and observe her pupils while 14 was teaching, gaining valuable insights into how they interacted with one another. Her experience is that teaching 650 children a week makes it difficult to get to know them all well, but while 14 was teaching, she was able to observe some of the
pupils that were having social problems and try to use music as a tool to help them. CT4 thought this was one of the best things that hosting I4 allowed her to accomplish.

CT5 stated that she improved as a teacher during the student teaching process, but thought that “grow” or “learn from” would be better alternative expressions than “improve.” She said that it is nice to step back and see the pupils being taught. It allows a teacher to see the children from a different perspective. She appreciated I5’s “new ways of interacting with children.”

CT5 observed that choreography was a strong skill of I5’s. CT5 would watch I5 teach and compare her intern’s teaching to her own. CT5 saw this as a way to update her knowledge of and experience in choreography. She used this interaction with her intern as an opportunity to try to make her choreography “more 2008 as opposed to 1980.”

When asked whether they used the hosting of a student teacher as a time to reflect on their own practices as a teacher, the CTs gave several responses. CT1 provided a specific example of something new that she learned when I1 used his fingers to teach the instruments of each family of the orchestra from top to bottom in range and the pupils followed his modeling. This involved the pupils visually and kinesthetically in the learning process. Additionally, she said that her special education pupils used this system to do well on a written test.

CT2 found that having someone else teaching in his own class gave him time to think about what the teacher and pupils are doing and to compare and evaluate what the pupils were learning. One specific thing that he hoped to gain from hosting an
intern, and did, was to see and learn some new warm-up exercises. I2 brought in several warm-ups that CT2 did not know previously.

CT3 learned to let go of her control over what happened in her classroom. Allowing I3 to take over and teach in her own way helped her see that her pupils could learn through a variety of experiences. She found that interacting with I3 took time, but found that to be worthwhile. It made her feel good to know that she could pass on her expertise to someone else and that she had something to do with another person going on in music education.

CT4 found that I4 brought in some new methods of teaching concepts. The pupils enjoyed these new methods, and they worked well. She mentioned I4’s increased use of the drum circle as an example. I4 provided a different approach to teaching rhythm that CT4 still uses. CT4 also learned from I4’s example to write and arrange music specifically for the class. She is also still using a seating arrangement that I4 introduced.

CT5 said that hosting an intern takes time and effort. She mentioned that she initiated many reflective discussions with I5. CT5 also mentioned that she tries to constantly reflectively assess her own teaching. She has recently completed National Board Certification, which includes reflection as one component.

*Improvement as teachers during the placement.* Participants in the study were unanimous in their belief that the interns improved during the time of their placement. All of the CTs were asked if their interns improved as teachers during the placement.
The short answers from CTs 1-5 were, respectively: “Yes. Absolutely.” “I think she did.” “Yes. For sure.” “Definitely, I do.” “Oh, yes. I really do.”

When interns were asked if they thought that they improved as teachers during the student teaching process, the short answers from each were: “Most definitely.” “Definitely.” “I have.” “Sure.” And, “Oh, definitely.” Three went on immediately to list specific areas of improvement, while the other two did so after prompting.

I1 learned to relate to younger pupils. CT1 had him teach right away. She then modeled teaching in a challenging environment after he learned that it was not easy to keep a class full of students on task for an entire lesson. After some difficult lessons, he began to observe CT1 with more purpose when she taught. He found that he was more able to understand what she was doing after he tried teaching the class himself. He recognized specific techniques that she used to maintain a positive learning environment for the class.

CT1 mentioned that pacing and keeping the lesson moving was an area in which I1 improved over the course of the placement. I1 learned to take charge of the lesson and he then kept the pupils under control. He learned to plan the lesson very carefully and to keep activities moving forward. Later in the placement he learned to keep the pupils engaged as he kept the activities flowing. He was then able to keep the pupils moving smoothly through the lesson from one activity to the other.

I1 learned by observing video recordings of his own teaching and by reflecting on his lesson plans with CT1 after he had taught the lesson. His lesson plan reflection included asking himself, “Okay, how did they receive the information that I just gave
them? Did they learn the information that I gave them? Are they going to be able to retain the information that I gave them?” CT1 gave him feedback on his teaching, he commented, “All the time. All the time.”

I2 had a learning experience similar to what I1 expressed. She stated:

When I started, I wasn’t entirely sure how to run the class period. Not only what to put in the schedule, but also how to keep the kids interested and them focused, and, not only through some trial and error on my own part, but also through watching [my cooperating teacher], I realized that it comes down to keeping things moving for these kids, and, especially at fifth grade level they like to go from one thing to the next … And the more they are active the less chance they are to be distracted and the more is accomplished.

CT2 mentioned that I2 became less nervous in front of the class during the course of the placement. She formed appropriate relationships with the pupils and the pupils would approach her and initiate conversations.

Over the course of the placement, CT3 observed that I3 learned to pace the lesson to get through all of the activities in order to accomplish what she intended in the lesson. I3 also learned to reflect in the moment and respond to the pupils within the lesson.

I4 gained in self-confidence. Prior to student teaching, she knew that teaching was something that she wanted to do, but wondered, “Do I have the necessary skills and energy that are required to really make this into reality?” She found that, “Student teaching was set up for me to succeed, so it was small steps, and each week I was able to do something right. And so, by the end it, I felt able to sort of tackle the whole job, an actual position.”
CT4 said that at first I4 needed help to figure out what teaching strategies would be successful with certain ages. As the placement went on and I4 improved at applying what she knew about child development to her lesson delivery, I4 improved at making those judgments herself.

CT5 mentioned that I5, “showed growth in her confidence in teaching the children. She showed growth in ideas for achieving objectives. She showed growth in planning. We worked on that and writing lessons. She did a great job, and I saw lots of growth.”

Several of the interns mentioned the benefit in classroom music of being able to teach the same lesson to different sections of the same grade. I1 noted that there were times when CT1 would recommend that he change the activities for a different class of the same level. I1 also said, “When you teach a third grade class and then you teach another third grade class right after that, you can change something right away because you’ve experienced how it went.”

I5 also mentioned the benefit of multiple classes in the context of learning about pace and classroom management from her CT. “... since I would have to teach the same lesson twice in a row a lot of times, or at least three or four times that day, I would have to teach the same [lesson] to different students. I definitely learned that I needed to keep things rolling ... I needed to prioritize my time because sometimes I would run out of time to do things that I would want to do. So she helped me a lot with that and always gave me feedback during break times.”
CTs as models or mentors. All five of the interns were able to state ways in which their CTs were models or mentors to them. Three of the interns appreciated that sometimes when they taught early in the placement, the CT was in the back of the room and could encourage and reassure them during the lessons.

I learned from CT1’s example of having a plan for the whole semester already written out. “She knew what she wanted to teach already… and she left it open for me to teach [the lesson] however I wanted to teach it on the days that I taught.”

CT1 also served as a model during parent-teacher conferences. He said that he learned how to be professional when relating to the parents as well as how to keep the conference focused on the behavior that was at issue.

I3 mentioned the area of organization as one in which she saw CT3 as a model. CT3 showed her “how to organize a classroom that has to function for kindergarteners as well as sixth graders.” “She did a really great job of just organizing it so that very little time was spent getting out materials or, putting them away ... from the second that the students walked in, she was able to start off the lesson with a song and get right into it.”

I5 mentioned that CT5 served as a mentor to her in the areas of technology and world instruments. CT5 set up MIDI accompaniments for the music for the school’s public performance and helped I5 use the accompaniments in her teaching. CT5 also put all of the school’s soprano recorder music on the computer so it could be projected and I5 could scroll from page to page during lessons.
Successful Induction

All of the interns in this study had successful placements and continued to pursue music education as a career. 14 mentioned that when she completed her placement she felt ready to be a teacher and to be hired in a full-time position. She felt qualified for the job, but understood that teachers must always continue to learn.

Three of the interns in this study were teaching in full-time positions by the time of the interviews. Of those three, one was teaching in a band position. Another was teaching in a private school that was somewhat smaller, but similar to, the school in which she was an intern. The third was teaching in a private school position that includes elementary general music as part of her job. Of the two interns who had not yet been employed in full-time teaching positions, one was looking for a full-time position. The other had not completed the certification program, but was planning to complete it in the near future.

Other Issues

Possible coercion of interns by CTs. This study did not replicate the findings of Beynon (1998) that interns sometimes feel that CTs are coercing them to become someone they are not as teachers. Years ago, when an intern herself, CT1 had the experience of the mentor teacher trying to coerce her into being just like he was as a teacher. CT1 said she was required to be a “mini-me.” Because of this experience, she tried really hard not to do that to her interns, but to let them be themselves. As an example, II had a background similar to the background of many of his pupils. He
also was fluent in Spanish and could talk with the parents in either language. CT1 reported that I1 had great rapport with the parents. She called him “very administrative-like” in parent-teacher conferences. She recognized that these were characteristics that I1 brought to the experience that were different than her own strengths.

I3 mentioned that she and CT3 would discuss how well the lesson succeeded, but that this was a collaborative process. They would brainstorm together, but she felt freedom to develop as an individual teacher.

I4 felt that she and her CT were very different people with different teaching styles, but that CT4 expected I4 to teach in her own individual way. She explained:

I felt so free to be who I was. That was one of the neatest things about my cooperating teacher’s personality, is that, she was who she was and she didn’t apologize for it, and she expected you to be yourself, too. With her students, also, but with me, she encouraged our ideas and if I came up with an idea and she had never done it that way, she was almost excited that someone had finally suggested that.

I1 and I5 both felt that a teacher needs to take on a persona when teaching children, but they felt as though their CTs were helping them to do this rather than forcing them to be people that they were not. I5 stated, “I never felt like I had to be anybody I wasn’t. I do think that people need to realize that you do need to put on a certain kind of mask when you teach. You can’t be 100% yourself. You have to adapt.”

Of the interns in this study, I2 came the closest to feeling coerced. She felt that her CT had a bent towards jazz music and expected his classroom to continue forward
in a similar fashion. She went on to say “he is a great example for me, but I can have my passions just as he has his, and so I don’t have to do [the lesson] exactly how he did it.” She said, however, that CT2 understood and respected that conviction.

*Relationships with university supervisors.* All participants in this study reported positive working relationships with their university supervisors. They would have liked more guidance from the supervisor as representative of the university, but felt that the interactions they had were productive.

There was a range of involvement by the interns in arranging the placement. Interns 1, 2, and 3 requested placements that were confirmed by their universities. 14 had no involvement in making her placement, while 15 was expected to arrange and confirm her own placement.

11 and 12 expressed no difficulties due to disagreements between CTs and supervisors. 13 said that the faculty at her university had worked with CT3 previously and recommended her because they “knew that she would be a good fit.”

14 had an interesting challenge in that she actually had two different supervisors from the same university for her two placements. She found that one was more understanding of her placement than the other was, but that the supervisor she dealt with most in her elementary placement agreed with CT4 about the placement.

15 said that as long as she completed her paperwork in good time, there were no problems with the university. She said that her university supervisor seemed to be content with the experience she was having.
The CTs felt that the university supervisors, CTs, and interns agreed about the experiences that interns were supposed to have but, in general, they would have liked more interaction with the supervisor as representative of the university teacher education program. For example, the supervisor never visited I3 during this placement but did call CT3 once for a consultation. CT1 believed that the supervisor was very supportive and always gave good recommendations to the intern on supervisory visits. CT2 would have appreciated a visit before the placement to discuss the plan for the intern, and to receive a summary of the intern’s strengths and weaknesses. CT4 said that there has never been enough time to interact with the university supervisor in any intern placement she has ever hosted, but she still wanted it to be clear that the supervisor did a good job and that they agreed about the expectations of the placement and the types of experiences that the intern should have.

When asked what would have made the placement better, CT2 mentioned that he would have appreciated more of a plan from the university about the recommended amounts of teaching the intern should be doing through the weeks of the placement. CT5 mentioned this also. They did not want a prescribed plan in detail, but more of an idea of what was expected of them as CTs. CT4 mentioned that, ideally, a longer placement allowing for more time in the school would be better for interns.

Opportunity for free responses. At the end of each interview the participants were encouraged to say anything further that they wished to say regarding the placement. In response, I1 mentioned that writing lesson plans to the university’s
standards took time and energy away from planning that would have been directly applicable to the placement itself.

I2 would have appreciated some time to observe other teachers near the end of the placement. She felt that she had a better idea of what to watch for after doing so much teaching herself. She also learned that teachers must be flexible. No matter how much a teacher plans, there can be unexpected situations that require a change of plans.

I3, who split her time between two placements most days, commented on the logistics of the split placement and the fact that her time in her preferred area of band was limited. After the placement, however, she came to appreciate what she had learned from CT3 in the general music placement. She remarked, “I know that even now there has been an impact on the way that I teach.”

I4 had questions about whether it is better to have a full day placement for fewer weeks or a longer placement with alternating days or even a split day placement. In her view, each format seemed to have advantages and disadvantages.

I5 enjoyed teaching in a school that seemed to have everything a teacher could want in terms of teaching supplies and equipment. She believed that she gained an understanding of what is possible even if she never teaches in a school that is so privileged. She had originally chosen this school because of the equipment and supplies available and because CT5 came highly recommended.

The CTs were also given the opportunity to add anything that they wished to say regarding the placement. CT1 completed the interview by saying that she loved
hosting her interns. CT2 said, “I really enjoyed the experience, and I would love to do it again.” He felt that interns could have a great experience at his school because they could be involved in a variety of areas of music education: general, choral, band, and string orchestra in grades K-8. The other CTs had nothing to add.

**Summary of Results**

Quantitative results included some differences in descriptive statistics for the CTs and interns. When averaged by category, CTs had higher scores on every category of the STE than the interns as well as a higher total STE score. They also had higher global ratings of lesson quality from the expert raters. The differences were not statistically significant.

There were virtually no differences between the pre- and postpracticum STE scores, statements of reinforcement, or global ratings for either the interns or the CTs. None of the comparisons resulted in statistically significant differences.

Five themes emerged in the qualitative data: fulfilled expectations, effective preparation, capable application, increased professionalization, and successful induction. Though the interns came to the student teaching placement with a variety of backgrounds and expectations, they all reported that they received what they expected to receive from student teaching and they enjoyed good working relationships with their CTs. The CTs all felt that their interns came to the placement well prepared, applied what they had learned in their music education programs, took on the role of teacher, and went out ready to begin successful careers as music educators.
CTs felt that they had given the interns what they needed that they could not gain in university coursework: supported, controlled, and incremental experience as working teachers. CTs saw giving interns the opportunity to experience the daily routine of the classroom as the primary purpose of the placement. Serving as a role model was their primary role in the view of the CTs. However, they all enjoyed the experience and did gain new ideas and a sense of professional renewal as they worked with the interns.
CHAPTER V

DISCUSSION

The quantitative and qualitative portions of my study differ in their findings, and I will address them separately. I will review the quantitative results first, followed by a review of qualitative results. My original research questions were:

1. Do interns change in their teaching performance during the course of a student teacher placement?
   1a. Do interns teach more like their cooperating teachers during the course of student teaching?
   1b. Are there any identifiable factors that are associated with interns teaching more like their cooperating teachers?

2. Do cooperating teachers change in their teaching performance during the course of a student teacher placement?

3. Do interns and/or cooperating teachers perceive change in interns during the course of student teaching? If so, what are the changes?

4. Do interns and/or cooperating teachers perceive change in cooperating teachers during the course of student teaching? If so, what are the changes?
I found no significant differences in the teaching performance of interns when comparing the beginning and the end of the placement using the quantitative measures of STE scores, global ratings of lesson quality, and statements of reinforcement. As there was no change in the teaching performance of either group, questions 1a and 1b are now rendered moot. I also found no significant differences in the teaching performance of cooperating teachers at the beginning and the end of the placement with the same measures. Interns and cooperating teachers perceived changes both in the interns and in the cooperating teachers during the course of student teaching. I will address those perceptions in the discussion of qualitative results.

**Quantitative Results**

There are several possible explanations for these quantitative results. One is that the interns simply do not change in the practices analyzed, and possibly do not change in other related practices. If this is true, one possible reason is that none of the CTs in this study had any training as CTs before the placement began. Perrodin (1961) reported gains on *Minnesota Teacher Attitude Inventory* (MTAI) only for those interns with trained CTs. Wheeler (1987) reported that trained CTs were more effective at preparing their interns to take on the role of teacher than CTs who had no training. Other studies found that trained CTs were more effective than untrained CTs in encouraging particular desired behaviors in their interns (Drafall & Grant, 1991; Kilgore, 1979).
The quantitative findings of no changes in interns or CTs with item scores on the STE, global ratings of lesson quality, and statements of reinforcement during the time of the placement are compatible with the findings of Brand (1982) and Terry (1991). They found no change in interns’ classroom management skills and attitudes during the time of a student teaching placement. They also found no relationship between the CTs’ classroom management skills and attitudes and those of the interns either pre- or postpracticum.

Another possible reason for this finding is that teacher education programs may be doing well at preparing their candidates for student teaching. In contrast to the study by Cox (2002), who reported on interns in the U.K. who were student teaching before they had gained extensive experience working with pupils, all of the interns in this study had completed at least 100 hours of supervised field experiences coordinated with their university course work prior to their internships. Most interns in the USA have had similar field experiences (Brand, 1985; Nierman, et al., 2002; Rideout & Feldman, 2002). Wolfgang (1990) found that structured field experiences led to a more developed teachers’ role identity for his participants before their placements in student teaching.

A third possible explanation for this study’s findings is that interns do indeed change, though not in ways that are obvious to a neutral observer watching a teaching episode and evaluating statements of reinforcement, item scores on STE, or overall lesson quality. Some of the qualitative data discussed later support this explanation.
Another possible explanation is related to the fact that I did not make the video recordings myself and had no control over the circumstances of the recording. Though my recruiting documents asked for the episodes to be recorded near the beginning and near the end of the placement, I also stipulated that the episodes should be of lessons with fifth grade classes. Although having all of the episodes be of fifth grade classes controlled for some variability, it may be that the interns were not teaching fifth grade classes at the beginning of the placement. If the first episode was recorded later in the placement, some change in interns' teaching may have occurred before the first episode was recorded. Seperson and Joyce (1973) found that CTs' impact on types of communication by interns was almost immediate and did not increase, but persisted at the same level through the length of the placement.

One more possible explanation for this study's findings is that the sample size of this study was too small to reveal statistically significant differences, while a larger sample may have done so. Increasing the sample size increases the statistical power (Keppel & Zedeck, 1989). A small sample size has less statistical power than a larger sample and requires that larger changes be observed in order to be confident that the differences are not due to random sampling variability (Glass & Hopkins, 1996). For example, two interns' prepracticum episodes were rated and scored unusually high. This is surprising considering that one of the interns with high pre-scores was 11. Both he and CT1 mentioned that he had difficulties maintaining pupil focus when he started the placement. These interns' postpracticum episodes were rated and scored closer to the postpracticum episodes of the other interns. Also, one CT's
postpracticum episode was rated and scored unusually low. Her prepracticum episode was rated and scored closer to those of the other CTs. A larger sample could have revealed if these scores were due to random sampling variability.

With a much larger sample, it would be possible to examine patterns in the data that could be interpretable. For example, perhaps all of the dyads that had a particular goal for student teaching or that held observation conferences in a similar way would have results that differed from the rest of the dyads. These differences could then become suggestions for future research. The size of my sample made it practically impossible to examine such potential patterns in my study. Instead, this was a descriptive study designed to gain some basic understanding of interns and cooperating teachers during the time of a student teaching placement in music and any observable changes in the ways that they teach during the term of placement.

An additional possible explanation for the finding of no change in interns’ and CTs’ pre- and postpracticum scores is that there may be a different evaluation instrument that would have documented differences, particularly if it had a section relating to pupil response to teaching. STE seemed like one of the better instruments available to me. I chose to use STE because of its previously noted reliability and validity data and its publication history, but it does not have a category for detection of pupil errors and their remediation.

There were differences between cooperating teachers and interns in several categories, including global ratings and total STE scores, though they did not reach the level of statistical significance. For example, CTs scored higher than interns on all 30
Qualitative Results

Five themes emerged during analysis of the qualitative results: fulfilled expectations, effective preparation, capable application, increased professionalization, and successful induction. In the following sections, I will discuss each of these perceived themes, give specific examples, and relate these findings to previous studies.

Fulfilled Expectations

One of the seeming strengths of student teaching is the apparent flexibility that participants have to shape the placement to meet their personal expectations. Though the CTs and interns entered student teaching with a variety of expectations, they all reported that their expectations were fulfilled. Interns in my study viewed student teaching as the culminating experience in their teacher education programs, agreeing with what has been reported in the literature (Conway, 2002; Karmos & Jacko, 1977; Wheeler, 1987). They also agreed with previous studies in rating their placement as the most useful part of their preservice program (Haberman, 1983; Yee, 1968).

CTs expected their interns to have a high commitment to music education, to build a rapport with pupils, and to bring some new ideas to the placement. They felt that the interns did this. Interns wanted to learn about the daily routine of teaching by
working with their CTs (Tjeerdsma, 1989; Wheeler, 1989), and stated that they did this. They looked to their CTs as models of successful teaching. This study replicates the findings of previous studies that gathered qualitative data and found that CTs have an important influence on the teaching practices of interns in music, particularly in serving as models for specific teaching techniques (Beynon, 1998; Schmidt, 1994; Schmidt, 1998; Snyder, 1996) and in helping interns think about teaching in an analytical and reflective manner (Drafal & Grant, 1991; Schleuter, 1991). Interns cited specific examples of things that they learned from their CTs such as keeping the pupils attentive and on task and integrating goals and standards of a curriculum guide into the activities of daily lessons.

**Effective Preparation**

Though the interns in this study came from four different teacher education programs, CTs and interns in my study all agreed that the interns were prepared by their teacher education programs to be successful in student teaching. In order to teach well, a teacher must have a background of general knowledge, content knowledge in music, pedagogical knowledge of how to teach, and pedagogical content knowledge of techniques and approaches that are specific to teaching music (Nierman, et al., 2002). CTs reported no deficits in any of these areas with their interns. They recognized individual and personal strengths in their interns that were different than their own. CTs reported that interns needed to gain experience, but they felt that the purpose of
the placement was to give interns experience. Two CTs also believed that their interns should keep working to strengthen their keyboard skills.

As recently as the 1980’s Schlechty and Vance (1983) called for reform in teacher education while Haberman (1983) called for research to be applied to the way that teacher educators prepared teachers. In more recent years, some teacher educators viewed the teacher education program and the cooperating teacher as working against each other (Beynon, 1998; Meijer, et al., 2002; Zeichner, 1999), while Conway (2002) called for a full-year internship to improve teacher education. Butler (2001) emphasized the importance to music education students of having teacher education programs that optimally prepare them to function in schools.

Future research could examine whether music teacher education programs are now preparing their candidates well for student teaching, as the perceptions of this study seem to indicate. If interns are better prepared, future research could examine what has changed to make them better prepared than interns were decades ago.

**Capable Application**

Previous studies have described student teaching as a time to apply what interns already know about teaching and to explore and experiment with ways to transfer that knowledge to new teaching situations (Karmos & Jacko, 1977; Kilgore, 1979). The placement is a time for interns in music to integrate personal histories, coursework, field experiences, their knowledge of music, and their pedagogical knowledge to design and deliver productive lessons for their pupils (Rideout &
Feldman, 2002). Bisset (1993) found that an apprenticeship approach that included observation of CTs, coaching, and actual teaching in a school setting helped interns to understand how the knowledge gained in university coursework applied to classroom teaching in music.

The CTs and interns in my study viewed student teaching as an opportunity for the interns to apply appropriate things about teaching that they had learned in university coursework and through field experiences, and all of them did this successfully. For example, interns were able to apply their knowledge of child development to lesson planning, pacing, and classroom management. Interns perceived that they improved as teachers as they applied this knowledge during their student teaching placement. Their CTs also perceived improvement in the interns’ teaching performance, and they were able to provide specific examples such as moving smoothly from one activity to another within the lesson and relating to pupils of various ages.

*Increased Professionalization*

Previous studies have examined the development of an intern from a student to a teacher and the need for interns to take on the role of teacher (Broyles, 1997; Stegman, 2007; Woods & Weasmer, 2003). The interns in my study took on the professional role of teacher and negotiated identities as teachers that were true to their personalities (Beynon, 1998, Schmidt, 1998). Both CTs and interns in this study mentioned their perception that interns grew as teachers over the course of the
placement in the areas of confidence, in professional relationships within the school, and in incorporating curricular goals when planning lessons. They also learned to interact with parents in a professional manner. These areas may not be manifested and quantifiable within any individual lesson and were not identified in quantitative data analysis in this study.

This study did not replicate the findings of Beynon (1998) that interns sometimes feel that the CTs are coercion them to be someone they are not as teachers. All of the interns in this study reported that their CTs were helping them become themselves as teachers (Broyles, 1997; Schmidt, 1998; Snyder, 1997). Indeed, in two cases in this study, interns felt that they were changing as they became teachers, but they saw the CTs as allies in this process rather than as forces of coercion.

Successful Induction

Previous studies have stated that the purpose of a student teaching placement is to produce a graduate who can effectively serve as a music educator (Fallin & Royce, 2000; Krueger, 1987). Beynon (1998) states that “no one knows the best way of teaching student teachers to teach,” (p.83), yet all of the interns in this study completed their student teaching experiences believing themselves to be prepared, on both personal and professional levels, to begin careers as music educators. Personally, they felt comfortable in the role of teacher and believed that they had the necessary characteristics to teach well (Britzman, 1991; Schmidt, 1998). Professionally, they had demonstrated competency in areas in which teachers must be proficient, including
lesson planning, curriculum delivery, and classroom management (Hazelton, 1996; Zeichner, 1999). By the time of the interviews, three of the interns were already teaching in full-time music education positions, while the other two were working toward that goal.

The interns in this study each had two student teaching placements, and the other placement was in secondary grades. Most music interns in the USA have an elementary and a secondary placement (Rideout & Feldman, 2002; Schmidt, 1998). Of the three interns in this study who were teaching full-time when interviewed, none were teaching in positions that were all elementary general music. The fact that they spoke highly of their general music placements and CTs may indicate that the influence of CTs in this study extended beyond their specialty into other areas of music. Future research could examine the relative effects of the CTs of the two placements. My study did not ask interns about relationships with CTs from the other placement.

The interns in this study all spoke of how much confidence they gained as teachers during the placement. They felt respected as colleagues by their CTs and their ideas were considered and often applied in the classroom. As I4 stated: “student teaching was set up for me to succeed.” By the end of the placement, she felt ready to take on an actual teaching position. By contrast, Schmidt (1998) found that two of her four interns did not feel respected by their CTs and chose not to pursue music education as a career (Beynon, 1998; Britzman, 1991). It may be that the greatest
contribution of the CTs in my study was to help the interns gain confidence that they could indeed be successful music teachers.

**Reconciling Quantitative and Qualitative Findings**

The fact that the quantitative data indicates no change while the qualitative data indicates the perception of great improvement in the interns could be seen as a paradox. This may be the first study to look at the same group of interns in music by gathering both quantitative and qualitative data. It has bridged the gap between quantitative studies that show no change in interns in music (Brand, 1982, Terry, 1991) and qualitative studies that describe great changes (Schmidt, 1998; Snyder, 1996) by showing that both can be true of the same group of interns in a placement.

How can student teaching placements be judged as successful when the quantitative data show no improvement in the interns' teaching? The research indicates that if there is a training protocol for a specific behavior or element of teaching, and if the cooperating teacher is involved and demonstrates that behavior or element, interns can increase the use of the specific behavior or element (Copeland, 1977; Haberman, 1983). In my study, none of the universities represented had such a training program or specific directions for the CTs. None of the teacher education programs had any protocol or plan to measure improvement with their interns. There was no particular evaluative instrument or tally of specific behaviors that their interns were to demonstrate. The university supervisors seemed to believe that as long as the interns were gaining experience and had considerable time as the sole teacher in front
of the class, interns were having a positive placement. Also, there might have been quantitative changes that occurred but were not examined in this study.

In the absence of specific goals for improvement from the university supervisor, the CT and intern agreeing that the intern was ready to be a music teacher became the definition of success. By that measure, all of the interns gained what they could not gain in the university coursework: supported, controlled, and incremental experience as a working teacher. Since there was no stated standard for the interns to reach, each dyad was free to adapt the experience to the music curriculum and schedule of the particular school district.

My study also had no particular treatment since it was a descriptive study. My communication with the CTs and interns did not describe how their episodes would be evaluated or that I would be tallying statements of reinforcement.

**Problems Encountered in the Study**

I was unable to complete the study as I had originally intended because I was not able to recruit a large enough sample. My goal had been to recruit 20 dyads in the same semester. In the end, it took four attempts in different semesters to recruit the five dyads that completed the study.

The following are some errors that I made in this study along with suggestions to avoid these problems in future research. One important error that I made was in equating objectivity with anonymity. I thought that it was best if I did not know the participants in the study. My reasoning was that this would aid confidentiality and
reduce the possibility of bias. I had hoped to recruit participants from universities with which I had no connection. I learned, however, that having a personal connection with the music education professors was an important part of the recruiting process. In every case, the participants who successfully completed my study heard about it from music education professors (including myself) who had a personal interest in my research and made efforts to assist me.

Knowing the teacher education programs of the interns and their professors did not have a negative effect on the objectivity of the quantitative data or analysis. Because independent raters not connected to the interns and CTs scored the episodes on STE and gave global ratings, bias was not an issue for those evaluations. I did tally the statements of reinforcements, but a disinterested reliability observer checked my tallies of reinforcement, mitigating any possible bias on my part.

Additionally, it was when I came to know my participants through the interviews that I learned the most about their experiences in the student teaching placement. Learning about them as people and learning details about their experiences during the placement did not negatively affect the confidentiality of the study, but increased my insight into the complex process of student teaching.

A second error in this study was that I tried to recruit from all of the music education programs in the state. I now believe that my recruiting would have been more successful if I had concentrated on gaining the assistance of music education professors from only a few of the larger programs. Several of the larger music education programs in my state have 20-30 interns each year. If I had concentrated on
gaining the help of professors at two or three of these universities in my research, they
could possibly have helped me recruit a larger number of participants.

A third error was not allowing enough time to recruit participants before the
placements began. My plan was to recruit in the semester before the study. If I had
been working on recruiting a year before I had planned to do the study, I would have
had enough time to speak with possible participants and answer any questions before
they began their placements. This would have also allowed more time to gain any
necessary IRB or school district permission. Music education professors could have
chosen to present my study to the candidates at the time when placements were being
made, allowing more time to present the study to CTs.

Changes During the Study

Possible Bias and Efforts to Mitigate Bias

My original plan was to complete the study during a semester in which I
personally had no interns in student teaching. When the study was delayed, it provided
me the opportunity to have in the study two music education candidates of my own.
This presented the possibility of bias entering the study due to the fact that I was the
university supervisor for Dyads 1 and 2.

This possible bias may have been mitigated by several of the procedures in the
study. First, the episodes were viewed in random order by expert raters who did not
know whether any of the participants were my own students. Second, the tallies of
reinforcement were reviewed by a party who did not know which of the participants were my own students. Third, during the interviews, I emphasized that we can all learn through reflective assessment. With Dyads 1 and 2 I emphasized that I was open to any suggestions that the participants might have had for me as their university supervisor, and both an intern and a CT offered suggestions. I emphasized that the participants should feel free to express any ways in which their experiences with their student teaching placements could be improved. All participants were given the opportunity to review the interview transcripts as a form of member check. Fourth, an uninvolved party reviewed the transcripts of the interviews.

Recommendations for Future Research

My study was intended as a first step in understanding what occurs in a student teaching placement. Having completed this study, I think there are two studies that should have been done before this one. The first would examine the instruments used to evaluate interns by various universities. Limiting this study to the State of Illinois, or another individual state, would make this a manageable study. Bergee (1992b) found that many music interns are rated with generic instruments that may not be valid or reliable for music. How are interns evaluated in these programs? What are the standards at the universities that determine whether interns have been successful in their placements?

The second study that should have preceded this one would examine whether university supervisors’ ratings show that their interns change during the placement.
My study showed that an objective observer watching episodes in random order sees no improvement in the specific areas evaluated. It would be an interesting contrast to see if supervisors who are involved in the process document improvement in their own evaluations of similar items.

Looking forward, research studies should examine whether specific training for interns and cooperating teachers in music actually results in improvement in the specific areas emphasized in the training. For example, it would be interesting to know if training on sequential teaching patterns or on statements of reinforcement by specific approvals increases the frequency and effective use of those procedures (H. E. Price, 1992). It would also be valuable to know if training in those procedures results in higher global ratings of teacher effectiveness. Concentrating on the possible effects of specific training rather than looking at characteristics of interns and placements in general could show that interns in music can improve in specific behaviors or techniques.

Studies that look at the effects of specific protocols through treatment/control research designs may be more productive than studies that look at student teaching in general. Examples of studies with specific protocols cited in this study include Coulon (2000), Kahan (1999), Perrodin (1961), Tjeerdsma (1998), and Wheeler (1987). The variety of formats for placements, the differences in teacher education programs, and individual characteristics of the members of the student teaching triad are all factors that may make it difficult to make general statements regarding how participants change in their teaching performances during student teaching.
Concluding Thoughts

I began this study out of my desire to learn more about student teaching in music and its effect on the participants, both interns and cooperating teachers. In that, I was successful. Looking at the complex process of student teaching in music through the analysis of several different forms of data was very interesting to me.

Though the interns showed no improvement in the specific measures I used in this study, they all related that they were satisfied with what they received from student teaching. Specifically, they all reported finding ways to apply what they knew to the daily routine of teaching. Also, they all found ways to teach that were consistent with their senses of themselves as teachers, and they all left student teaching perceiving that they were ready to begin careers as music educators.

The most important finding of this study may be that all of the interns and CTs in the study felt the interns were prepared to be successful in student teaching. This may be evidence that the teacher education programs represented are doing well in preparing candidates for productive careers as music educators.
APPENDIX A

COOPERATING TEACHER INFORMATION SURVEY
Cooperating Teacher Information Survey

Name ________________________________ School ________________________________

What degrees have you earned and from what colleges or universities? ________________________________

How many total years have you been a full-time teacher? ________________________________

How many years have you been a classroom music teacher? ________________________________

How many years have you been in your current teaching placement at this school? ________________________________

Have you been a cooperating teacher before? (Yes/No) If so, how many student teachers have you hosted previously? ________________________________

Do you have any specialized training in classroom music? (Orff, Kodaly, Dalcroze, etc.) If so, please state what the training is. (Ex. Orff Schulwerk Level I training at St. Thomas in 2003) ________________________________

Do you have any specialized training for being a cooperating teacher or for supervision? If so, please state what the training is. ________________________________

Did you have a good experience with your cooperating teacher when you were a student teacher? Please describe your experience briefly. ________________________________
APPENDIX B

STUDENT TEACHER INFORMATION SURVEY
Student Teacher Information Survey

Name ___________________________ School ___________________________

What degree are you completing and at what college or university? ___________________________

Have you earned a college degree previously? If so, what degree was it and when and where did you earn it? ___________________________

How many years have you been working on your teaching degree? ___________________________

Have you completed 100 hours of field placement practica? (Yes/No) _______________________

Were any of your field placements with this cooperating teacher? _________________________

Were you involved in the decision of who you would have for a cooperating teacher? If so, how were you involved? (Was it a request you made? Was it a mutual decision with the cooperating teacher? Did you fill out a survey of attitudes about teaching or your philosophy of music education? etc.) ___________________________

Does your college or university have a student teaching seminar that runs concurrently with your student teaching placement? If so, please describe how often it meets and what topics will be covered. ___________________________

______________________________
APPENDIX C

SURVEY OF TEACHING EFFECTIVENESS
Survey of Teaching Effectiveness

I. LESSON DELIVERY SKILLS (Weighted 40%)

POSTURE

A. Head & Body:  

<table>
<thead>
<tr>
<th>Poor</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Excellent</th>
</tr>
</thead>
</table>

"Excellent" = Head lifted and centered; body lifted, relaxed, and poised  
"Poor" = Head forward or to one side; body rigid or slouched

B. Arms & Hands:  

<table>
<thead>
<tr>
<th>Poor</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Excellent</th>
</tr>
</thead>
</table>

"Excellent" = Normally relaxed with flowing gestures  
"Poor" = Hand(s) in Pocket(s), fidgeting/wrunging or clenched; arms crossed front or back

C. Legs:  

<table>
<thead>
<tr>
<th>Poor</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Excellent</th>
</tr>
</thead>
</table>

"Excellent" = Balanced; weight equally distributed  
"Poor" = Crossed; locked knees; swaying; leaning on one leg

EYE CONTACT

<table>
<thead>
<tr>
<th>Poor</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Excellent</th>
</tr>
</thead>
</table>

"Excellent" = Movement about room with individual eye contact  
"Poor" = Locked; staring; looking over heads or at floor

GESTURES

A. Hands & Arms:  

<table>
<thead>
<tr>
<th>Poor</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Excellent</th>
</tr>
</thead>
</table>

"Excellent" = Natural, flowing; appropriate for spoken content  
"Poor" = Absence of gestures; mechanical; inappropriate and/or contrived

B. Upper & Lower Body:  

<table>
<thead>
<tr>
<th>Poor</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Excellent</th>
</tr>
</thead>
</table>

"Excellent" = Change of stance, varying proximity to group/individuals; upper body directional change  
"Poor" = Absence of movement; nervous pacing

FACIAL EXPRESSION

<table>
<thead>
<tr>
<th>Poor</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Excellent</th>
</tr>
</thead>
</table>

"Excellent" = Naturally varying; uncontrived changes of eyes, mouth and facial muscles  
"Poor" = Absence of variation; exaggerated and/or contrived

© Copyright 1996 Hamann and Baker  
All Rights Reserved
VOCAL INFLECTION

A. **Dynamics:**

| Poor | 1 | 2 | 3 | 4 | Excellent | 5 |

"Excellent" = Comfortably and easily understood; naturally varying with appropriate accents and emphasis

"Poor" = Too soft to hear; uncomfortably loud; forced from the throat; static

B. **Tempo & Phrasing:**

| Poor | 1 | 2 | 3 | 4 | Excellent | 5 |

"Excellent" = Comprehensible pace with moderate variations and appropriate pauses for emphasis

"Poor" = Too fast for comprehension; too slow for interest; fixed tempo with lack of pauses

C. **Pitch:**

| Poor | 1 | 2 | 3 | 4 | Excellent | 5 |

"Excellent" = Natural variations for emphasis, voice is pitched for teacher/student listening comfort and ease i.e. predominantly in lower third of range

"Poor" = No variation; contrived; speaking predominantly in upper two-thirds of range

B. **Diction:**

| Poor | 1 | 2 | 3 | 4 | Excellent | 5 |

"Excellent" = Clearly articulated vowels and consonants; projected and resonating; easy to understand

"Poor" = Placed in back of throat, swallowing words; lack of resonance; lazy tongue and lips

II. PLANNING & PRESENTATION OF LESSON (Weighted 60%)

EVIDENCE OF LESSON PLANNING

A. **Content:**

1a. **Materials -Appropriate Music:**

| Poor | 1 | 2 | 3 | 4 | Excellent | 5 |

"Excellent" = Music appropriate for the age and ability of the students

"Poor" = Music not appropriate for students

1b. **Materials -Music & Concept:**

| Poor | 1 | 2 | 3 | 4 | Excellent | 5 |

"Excellent" = Music exemplary of the concept being developed

"Poor" = Music unrelated to concept; poor example

1c. **Materials -Supportive:**

| Poor | 1 | 2 | 3 | 4 | Excellent | 5 |

"Excellent" = Used appropriate supportive materials i.e., charts, recordings, video-taped presentations, computers, pictures

"Poor" = Materials unrelated to concept; poor materials

© Copyright 1996 Hamann and Baker
All Rights Reserved
A. Content Continued:

2. Objectives: 

<table>
<thead>
<tr>
<th>Poor</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Excellent</th>
</tr>
</thead>
</table>

"Excellent" = Determined appropriate objectives; students were made aware of objectives
"Poor" = Objectives were not appropriate; students were unaware of lesson objective focus

B. Organization:

1a. Activities - Type: 

<table>
<thead>
<tr>
<th>Poor</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Excellent</th>
</tr>
</thead>
</table>

"Excellent" = Type of activities were appropriate for students' age and skill and/or for number of students in the setting
"Poor" = Inappropriate activities for students' abilities, age, or for the number of students in the setting

1b. Activities - Number: 

<table>
<thead>
<tr>
<th>Poor</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Excellent</th>
</tr>
</thead>
</table>

"Excellent" = Number of activities were appropriate for students' age, skill, and for the length of the class; each activity was of appropriate length
"Poor" = Inappropriate number of activities for students, situation, and setting; inappropriate length of activities

1c. Activities - Sequencing: 

<table>
<thead>
<tr>
<th>Poor</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Excellent</th>
</tr>
</thead>
</table>

"Excellent" = Activities were sequenced logically
"Poor" = Lack of order and/or flow of activities; activities missing in learning sequence

SUBJECT MATTER COMPETENCE

A. Information & Demonstrations: 

<table>
<thead>
<tr>
<th>Poor</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Excellent</th>
</tr>
</thead>
</table>

"Excellent" = Presented correct information; accurate demonstrations
"Poor" = Presented incorrect, contradictory, or misleading information; did not or could not accurately demonstrate i.e., clapped or sang incorrect rhythms; did not demonstrate or provide information

B. Musical Model: 

<table>
<thead>
<tr>
<th>Poor</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Excellent</th>
</tr>
</thead>
</table>

"Excellent" = Expressive and accurate i.e., attention to phrasing
"Poor" = Nonexpressive, incorrect or inappropriate modeling; no modeling evidenced

C. Conducting: 

<table>
<thead>
<tr>
<th>Poor</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Excellent</th>
</tr>
</thead>
</table>

"Excellent" = Appropriate gestures for the group and the situation
"Poor" = Inappropriate gestures or not evidenced

© Copyright 1996 Hamann and Baker
All Rights Reserved
PACING

A. Logistics:

| Poor | 1 | 2 | 3 | 4 | Excellent | 5 |

"Excellent" = Organized, orderly; evidence of student learned logistics i.e., students get instruments or books quickly, efficiently, quietly and return to their seats and continue to prepare and ready themselves for the rehearsal/class

"Poor" = Chaos; students have no planned routine(s) that enable them to prepare for rehearsal/class

B. "On-Task":

| Poor | 1 | 2 | 3 | 4 | Excellent | 5 |

"Excellent" = Class began and ended promptly, wasted time minimal, time effectively utilized; definite closure to lesson

"Poor" = Class began late, students released late and students hurriedly put away instruments/equipment/materials; time not utilized effectively; class ended without closure

C. Flow:

| Poor | 1 | 2 | 3 | 4 | Excellent | 5 |

"Excellent" = Appropriate balance between teacher directives/explanations and student participation; one activity led to another without interruptions or breaks

"Poor" = Teacher talked too much; too much time spent going from one activity to another; long, disruptive breaks between and within activities

D. Responsiveness to Group:

| Poor | 1 | 2 | 3 | 4 | Excellent | 5 |

"Excellent" = Teacher responded appropriately to group and individual musical/technical needs and problems

"Poor" = Teacher was unaware of, did not respond, or responded inappropriately to group or individual musical/technical needs and problems

SEQUENCING PATTERN/REHEARSAL CYCLE

A. Directive:

| Poor | 1 | 2 | 3 | 4 | Excellent | 5 |

"Excellent" = Specific directive identifying task to be accomplished

"Poor" = Non-specific directive with no specific task to be accomplished

A. Feedback:

| Poor | 1 | 2 | 3 | 4 | Excellent | 5 |

"Excellent" = Specific positive or negative feedback provided; utilized student ideas and comments when/where applicable

"Poor" = No feedback or non-specific feedback provided

© Copyright 1996 Hamann and Baker
All Rights Reserved
TEACHING STYLE

A. Charisma, Energy, Confidence, Enthusiasm:

<table>
<thead>
<tr>
<th>Poor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Excellent</th>
<th>5</th>
</tr>
</thead>
</table>

"Excellent" = Secure, animated; captured student attention and interest
"Poor" = Sluggish, lethargic, insecure; students were bored or disinterested

B. Interest Shown in Students/Topic:

<table>
<thead>
<tr>
<th>Poor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Excellent</th>
<th>5</th>
</tr>
</thead>
</table>

"Excellent" = Sincere; interest evident in student welfare and in topic presented
"Poor" = Lacked sincerity; interest in student or topic not evident; "only went through the motions"

C. Supports and Encourages Student’s Efforts

<table>
<thead>
<tr>
<th>Poor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Excellent</th>
<th>5</th>
</tr>
</thead>
</table>

"Excellent" = Sincere praise provided; emphasized positive aspects of student efforts; constructive suggestions and comments provided
"Poor" = Sarcastic; belittled students and students’ efforts; emphasized negative aspects of student efforts; contrived praise

Evaluation Totals

<table>
<thead>
<tr>
<th>Component</th>
<th>Poor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Excellent</th>
<th>5</th>
</tr>
</thead>
</table>

Part I
- Posture = \(\frac{\text{Total}}{3}\)
- Eye Contact = \(\frac{\text{Total}}{1}\)
- Gestures = \(\frac{\text{Total}}{2}\)
- Facial Expression = \(\frac{\text{Total}}{1}\)
- Vocal Inflection = \(\frac{\text{Total}}{4}\)

Total of Part I = \(\text{Total} \times 2 \times 0.40\)

Part II
- Evidence of Lesson Planning = \(\frac{\text{Total}}{7}\)
- Subject Matter Competence = \(\frac{\text{Total}}{3}\)
- Pacing = \(\frac{\text{Total}}{4}\)
- Sequencing Pattern = \(\frac{\text{Total}}{2}\)
- Teaching Style = \(\frac{\text{Total}}{3}\)

Total of Part II = \(\text{Total} \times 2 \times 0.60\)

Total Score = Total of Part I + Total of Part II

Total Score Range: 10 Ineffective - 50 Extremely Effective

© Copyright 1996 Hamann and Baker
All Rights Reserved
APPENDIX D

INTERVIEW QUESTIONS
Interview questions for participants in Stephen C. Posegate’s dissertation study:

For student teachers:
What were your expectations going in to this placement? Were these expectations met? In what ways were they met or not met?

The research literature indicates that cooperating teachers serve as models and mentors for their student teachers during the placement. Was that the case for you?

If so, please name some areas in which your cooperating teacher was a model or mentor.

Do you think that you improved as a teacher during the student teaching process?

If you did improve, what are some areas in which you improved during the course of the placement?

If you do not think that you improved as a teacher during the placement, what do you think would have made student teaching a more effective experience for you?

For cooperating teachers:
What were your expectations going in to this placement? Were these expectations met? In what ways were they met or not met?

The research literature indicates that cooperating teachers use their hosting of a student teacher as a time to reflect on their own practices as a teacher. Was that the case for you?

If so, please name some areas in which hosting a student teacher helped you reflect on your own teaching.

Did you change anything about your own teaching as a result of this placement? If so, what did you change?

Do you think that you improved as a teacher during the student teaching process?

If you did improve, what are some areas in which you improved during the course of the placement?

If you do not think that you improved as a teacher during the placement, what do you think would have made student teaching a more effective experience for you?
To: All interested music educators and administrators in Illinois  
From: Steve Posegate, Trinity International University  
Re: Doctoral work  
Date: April 15, 2007

My doctoral dissertation is an examination of student teaching in music. I am looking for participants that fit a specific profile. Here is the description:

- Student teachers who are in a traditional music teacher education program,
- In a student teaching placement in fall 2007,
- Teaching elementary general music, and
- Willing to make 4 videotapes of lessons with the same fifth grade class:
  - The cooperating teacher: teaching near the beginning of the placement.
  - The student teacher: teaching near the beginning of the placement.
  - The student teacher: teaching near the end of the placement.
  - The cooperating teacher: teaching near the end of the placement.

Teaching episodes should follow the regular school schedule. The episodes will be the length of a regular class period. If you decide to participate, I need approval on official letterhead from your participating school district before you begin videotaping. I can send you an Informed Consent document for details of the study.

All tapes will be scored according to a specific rating scale that has been used in previously published research. The independent raters are in another state. Scores will be compared anonymously for statistical purposes only. This is a descriptive study trying to discover some specific information about what happens in a student teaching placement.

My dissertation proposal is being prepared at the University of Oregon under the direction of Dr. Harry Price. The study will follow the Human Subjects Research protocols of the University of Oregon and its Informed Consent procedures.

In addition to knowing that you are helping advance our knowledge of student teaching in music, I am offering $125.00 to each participant (cooperating teacher and student teacher) who completes and submits the tapes. I am looking for 20 pairs of participants.

Please contact me if you would like to be a participant or if you know of candidates who are qualified and may be interested in participating. Thanks for your consideration.

Steve Posegate  
Trinity International University  
2065 Half Day Road  
Deerfield, IL 60015  
(847) 317-7044  
sposegat@tiu.edu
APPENDIX F

INFORMED CONSENT DOCUMENT FOR COOPERATING TEACHER
You are invited to participate in a research study conducted by me, Stephen C. Posegate, from the University of Oregon School of Music. My doctoral dissertation is on student teaching in music. I hope to learn more about the relationship between the cooperating teacher and the student teacher and how that affects teaching practices. The results of this study will be reported in my doctoral dissertation. You were selected as a possible participant in this study because you will be the cooperating teacher for a student teacher in elementary music in the State of Illinois. I am looking for 20 pairs (dyads) of student teachers and cooperating teachers as participants.

If you decide to participate, I need approval on official letterhead from your participating school district before you begin videotaping. My study includes a one-page demographic survey for you and your student teacher each to complete. The information on the survey will be used to look for statistical correlations with the data we collect from the videotapes of your lessons. The data from the demographic survey will be used anonymously to detect patterns in student teaching rather than to form opinions about you, your student teacher, or your teaching as individuals.

I will ask you and your colleague (your student teacher) to videotape one class period near the beginning of the student teacher placement (before you have had a lot of time to work together) and one close to the end of the placement with the same fifth grade class. That makes four videotaped episodes altogether: one of the student teacher near the beginning of the placement, one of the cooperating teacher near the beginning, one of the student teacher near the end, and one of the cooperating teacher near the end or just after the placement ends.

You can work together to videotape each other’s lessons. The time gap between the “before” and “during” episodes should be at least seven weeks, or the longest period of time that your placement allows. While recording, try to keep the frame filled with the teacher only, because pupil behavior is not the focus of this study and we are not looking at or analyzing pupil behavior.

Please try to keep the class sessions as much as possible like normal. I am trying to learn what is normally happening in the classroom and not prescribe any particular course of action. The length of a class session is whatever your regular class schedule determines it to be.

When you have recorded the four teaching episodes, send them to me. I am very grateful for your participation. In consideration of your willingness to participate, the effort involved in securing written approval, and any disruption to your regular schedule, I am offering a stipend of $125.00 to each participant. I will send the check when I receive the recorded videotapes.

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Participant identities will be kept confidential by the procedures I describe below.

After I receive the tapes, I will remove any identifying labels, put a number on them for research purposes, and randomize the order. Then I will send the videotapes to retired music
education professors in another state. They will watch the tapes and rate them in several
categories and give an overall evaluation of the lesson's effectiveness. A second set of raters
will tally a specific set of behaviors that has been identified as being related to good teaching.
The study is most valid if we keep the process anonymous, so I will make great efforts to keep
the raters from knowing who you are.

The videotapes will not be shared with your school district or used in any evaluation of
teachers. The videotapes will never be shown publicly and all ratings will be compared
statistically only. If you want to know the results, I will be glad to share them with you at the
conclusion of the study. You will also be welcome to read my dissertation as it will become a
public document.

There is a remote possibility that the tapes could be seen or viewed by someone outside the
research analysis or that the tapes could be lost or stolen in transit. I will make every effort to
make sure that this does not happen, and have a great vested interest in keeping the tapes
secure.

I am hoping that this study will contribute to our understanding of the student teaching process
in music. However, I cannot guarantee that you personally will receive any benefits from this
research other than the stipend I mentioned above.

Your participation is voluntary. Your decision whether or not to participate will not affect
your relationship with your school district, your college or university, or the State of Illinois.
If you decide to participate, you are free to withdraw your consent and discontinue
participation at any time without penalty.

If you have any questions, please feel free to contact me in any of the following ways:

Home phone: (847) 245-3583          Cell phone: (224) 430-1286          Office phone: (847)
317-7044          Email: sposegat@tiu.edu
Steve Posegate, Trinity International University
School of Music
2065 Half Day Road
Deerfield, IL 60015
My dissertation advisor is Dr. Harry E. Price, Professor of Music Education
250 Music

If you have questions regarding your rights as a research subject, contact the Office of
Human Subjects Compliance, University of Oregon, Eugene, OR 97403, (541) 346-2510. You will be given a copy of this form to keep.

Your signature indicates that you have read and understand the information provided
above, that you willingly agree to participate, that you may withdraw your consent at
any time and discontinue participation without penalty, that you will receive a copy of
this form, and that you are not waiving any legal claims, rights or remedies.
CONSENT AGREEMENT FOR VIDEOTAPEING

Introduction and information: In good research, we try to answer questions. Often we find ourselves asking more questions as a result of the study. In student teaching, there are some inherent difficulties in gathering information for research because the school settings are so different. The process of finding participants, videotaping the teaching episodes, and enlisting the raters for this study of student teaching is a major effort and expense. One possibility is that when I reach the conclusion of the study, the results will suggest that I should analyze the taped episodes in some other way to answer different questions about student teaching in music. I would like your permission to use these tapes for further analysis if the results indicate that further analysis might be beneficial. I will guarantee that any future analysis will have the same type of procedures for confidentiality and anonymity. For research purposes, the videotapes will become outdated in about five years, and I will be erasing or destroying the tapes then. You may withdraw your consent at any time without penalty.

Consent agreement: I have received an adequate description of the purpose and procedures for videotaping sessions during the course of the proposed research study. I give my consent to allow myself to be videotaped during participation in the study, and for those videotapes to be viewed by persons involved in the study, as well as for other professional purposes as described to me. I understand that all information will be kept confidential and will be reported in an anonymous fashion, and that the videotapes will be erased after an appropriate period of time (5 years) after the completion of the study. I further understand that I may withdraw my consent at any time.

Signature of participant __________________________ Date ___________
APPENDIX G

INFORMED CONSENT DOCUMENT FOR STUDENT TEACHER
You are invited to participate in a research study conducted by me, Stephen C. Posegate, from the University of Oregon School of Music. My doctoral dissertation is on student teaching in music. I hope to learn more about the relationship between the cooperating teacher and the student teacher and how that affects teaching practices. The results of this study will be reported in my doctoral dissertation. You were selected as a possible participant in this study because you will be student teaching in elementary music in the State of Illinois. I am looking for 20 pairs (dyads) of student teachers and cooperating teachers as participants.

If you decide to participate, I need approval on official letterhead from your participating school district. My study includes a one-page demographic survey for you and your cooperating teacher each to complete. The information on the survey will be used to look for statistical correlations with the data we collect from the videotapes of your lessons. The data from the demographic survey will be used anonymously to detect patterns in student teaching rather than to form opinions about you, your cooperating teacher, or your teaching as individuals.

I will ask you and your colleague (your cooperating teacher) to videotape one class period near the beginning of the student teacher placement (before you have had a lot of time to work together) and one close to the end of the placement with the same fifth grade class. That makes four videotaped episodes altogether: one of the student teacher near the beginning of the placement, one of the cooperating teacher near the beginning, one of the student teacher near the end, and one of the cooperating teacher near the end or just after the placement ends.

You can work together to videotape each other’s lessons. The time gap between the “before” and “during” episodes should be at least seven weeks, or the longest period of time that your placement allows. While recording, try to keep the frame filled with the teacher only, because pupil behavior is not the focus of this study and we are not looking at or analyzing pupil behavior.

Please try to keep the class sessions as much as possible like normal. I am trying to learn what is normally happening in the classroom and not prescribe any particular course of action. The length of a class session is whatever your regular class schedule determines it to be.

When you have recorded the four teaching episodes, send them to me. I am very grateful for your participation. In consideration of your willingness to participate, the effort involved in securing written approval, and any disruption to your regular schedule, I am offering a stipend of $125.00 to each participant. I will send the check when I receive the recorded videotapes.

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Participant identities will be kept confidential by the procedures I describe below.

After I receive the tapes, I will remove any identifying labels, put a number on them for research purposes, and randomize the order. Then I will send the videotapes to retired music education professors in another state. They will watch the tapes and rate them in several categories and give an overall evaluation of the lesson’s effectiveness. A second set of raters...
will tally a specific set of behaviors that has been identified as being related to good teaching. The study is most valid if we keep the process anonymous, so I will make great efforts to keep the raters from knowing who you are.

The videotapes will not be shared with your school district or used in any evaluation of you as a teacher. The videotapes will never be shown publicly and all ratings will be compared statistically only. If you want to know the results, I will be glad to share them with you at the conclusion of the study. You will also be welcome to read my dissertation as it will become a public document.

There is a remote possibility that the tapes could be seen or viewed by someone outside the research analysis or that the tapes could be lost or stolen in transit. I will make every effort to make sure that this does not happen, and have a great vested interest in keeping the tapes secure.

I am hoping that this study will contribute to our understanding of the student teaching process in music. However, I cannot guarantee that you personally will receive any benefits from this research other than the stipend I mentioned above.

Your participation is voluntary. Your decision whether or not to participate will not affect your relationship with your school district, your college or university, or the State of Illinois. If you decide to participate, you are free to withdraw your consent and discontinue participation at any time without penalty.

If you have any questions, please feel free to contact me in any of the following ways:

Home phone: (847) 245-3583   Cell phone: (224) 430-1286 
Office phone: (847) 317-7044   Email: sposegat@tiu.edu 
Steve Posegate, Trinity International University 
School of Music 
2065 Half Day Road 
Deerfield, IL 60015 
My dissertation advisor is Dr. Harry E. Price, Professor of Music Education 
250 Music 
1225 University of Oregon 
Eugene, OR 97403-1225 
Dr. Price’s office phone is: (541) 346-3777

If you have questions regarding your rights as a research subject, contact the Office of Human Subjects Compliance, University of Oregon, Eugene, OR 97403, (541) 346-2510. You will be given a copy of this form to keep.

Your signature indicates that you have read and understand the information provided above, that you willingly agree to participate, that you may withdraw your consent at
any time and discontinue participation without penalty, that you will receive a copy of
this form, and that you are not waiving any legal claims, rights or remedies.

Signature __________________________ Date ______________________

---

CONSENT AGREEMENT FOR VIDEOTAPING

**Introduction and information:** In good research, we try to answer questions. Often
we find ourselves asking more questions as a result of the study. In student teaching,
there are some inherent difficulties in gathering information for research because the
school settings are so different. The process of finding participants, videotaping the
teaching episodes, enlisting the raters for this study of student teaching is a major
effort and expense. One possibility is that when I reach the conclusion of the study, the
results will suggest that I should analyze the taped episodes in some other way to
answer different questions about student teaching in music. I would like your
permission to use these tapes for further analysis if the results indicate that further
analysis might be beneficial. I will guarantee that any future analysis will have the
same type of procedures for confidentiality and anonymity. For research purposes, the
videotapes will become outdated in about five years, and I will be erasing or
destroying the tapes then. You may withdraw your consent at any time without
penalty.

**Consent agreement:** I have received an adequate description of the purpose and
procedures for videotaping sessions during the course of the proposed research study. I
give my consent to allow myself to be videotaped during participation in the study,
and for those videotapes to be viewed by persons involved in the study, as well as for
other professional purposes as described to me. I understand that all information will
be kept confidential and will be reported in an anonymous fashion, and that the
videotapes will be erased after an appropriate period of time (5 years) after the
completion of the study. I further understand that I may withdraw my consent at any
time.

Signature of participant __________ Date __________
APPENDIX H

SAMPLE LETTER

[Sample letter of permission to videotape.]
[To be printed on school district letterhead.]

[Anytown School District]
[111 South Main Street]
[Anytown, IL 60000]

Greetings:

As the [Director of Research or other title] for the [Anytown] School District, I approve participation in the dissertation study of Stephen C. Posegate by our student teacher [Kim Smith] and music teacher [Leslie Carlson], including videotaping of regularly scheduled classroom music [or general music] lessons.

As described in the informed consent documents, I understand that confidentiality will be protected, that results will be reported statistically only, and that the videotaped teaching episodes will not be shown publicly. I understand that pupil behavior is not the focus of the study, that the camera will frame and focus on the teachers involved in the study, and that no pupils will be identified in this study.

Sincerely,

[I. Will Research]
[Director of Research]
[Anytown School District]
APPENDIX I

INFORMED CONSENT DOCUMENT FOR INTERVIEWS

To: Participants in Stephen C. Posegate’s doctoral dissertation study
From: Steve Posegate
Date: May 14, 2008
Regarding: Possible interviews of participants

Thank you for your participation in my study of student teaching in music. I am now collecting data from the videotaped episodes that you provided. I hope to have completed my dissertation by December of 2008.

As I go forward with the study, it would be very helpful if I could interview each participant about his or her experiences with student teaching. This would be a follow-up interview that would be open to expressions of your experiences and reflections on student teaching.

The interviews should take no more than an hour. Because I would like to transcribe the interview verbatim to be sure that I understand your reflections on the process of student teaching, I would like to record the interview on a CD. The questions to start the interview are attached. Qualitative research prefers an open process that allows themes to emerge, so I may be asking follow-up questions based on your responses.

To thank you for your added participation in this study, and to acknowledge the extra time commitment you are making, I will be glad to offer an honorarium of $50.00 which I can pay you at the time of the interview. If you would rather have an alternative honorarium, I would be glad to give you a gift card in the same amount to a favorite restaurant of yours. I am grateful for your participation so far in my study and would be even more grateful, if that is possible, if you would participate in this interview process.

If you choose to participate in the interview, we will meet at a place of your choosing and talk for about an hour. I will transcribe the interview. Next I will provide you with the opportunity to review the transcript to see that it accurately reflects your intention in commenting on student teaching. If there are things that I misunderstood, I can add an addendum of clarification, or correct the transcript if I just did not understand correctly what you said.

The same protocols of confidentiality that are in place for the videotaped episodes will be in place for the interviews. Additionally, confidentiality with the interviews will have more protection because nobody else will be present at the interview or the
transcribing sessions and I will not allow anyone else to see the transcripts of your interview unless I am required to do so.

I have a responsibility to keep the recordings and transcripts for a while in case there are questions about my research. If members of my committee (who all live in another state) wish to hear the recordings or see the interview transcripts for a professional reason, they will not have any identifying information available. I will need to keep the recordings and transcripts for a reasonable length of time, but I will destroy them within three years.

If you choose not to participate in the interview, it will not affect your participation in the study as it was originally presented to you. Your decision whether or not to participate will not affect your relationship with your school district, your college or university, or the State of Illinois. If you decide to participate, you are free to withdraw your consent and discontinue participation at any time without penalty.

If you have any questions, please feel free to contact me in any of the following ways:

Home phone: (847) 245-3583  
Office phone: (847) 317-7044
Cell phone: (224) 430-1286  
Email: sposegat@tiu.edu

Steve Posegate, Trinity International University
School of Music
2065 Half Day Road
Deerfield, IL 60015

My dissertation advisor is:  
Dr. Harry E. Price, Professor of Music Education
250 Music
1225 University of Oregon
Eugene, OR 97403-1225

Dr. Price’s office phone is: (541) 346-3777

If you have questions regarding your rights as a research subject, contact the Office of Human Subjects Compliance, University of Oregon, Eugene, OR 97403, (541) 346-2510. You will be given a copy of this form to keep.

Your signature indicates that you have read and understand the information provided above, that you willingly agree to participate, that you may withdraw your consent at any time and discontinue participation without penalty, that you will receive a copy of this form, and that you are not waiving any legal claims, rights, or remedies.

Signature ___________________________ Date __________________
APPENDIX J

COMPILED QUANTITATIVE DATA
### Summary of Quantitative Data

<table>
<thead>
<tr>
<th>Dyad Code</th>
<th>Teacher Type</th>
<th>Time Code</th>
<th>STE Total</th>
<th>Rater Total</th>
<th>Approvals Specifc</th>
<th>Approvals Non-specified</th>
<th>Disapprovals Specific</th>
<th>Disapprovals Non-specified</th>
<th>Non-functional Communication</th>
<th>Length (M:S)</th>
<th>Episode #</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Int</td>
<td>Pre</td>
<td>90.2</td>
<td>181</td>
<td>17</td>
<td>17</td>
<td>10</td>
<td>14</td>
<td>1</td>
<td>5</td>
<td>21:25</td>
</tr>
<tr>
<td>2</td>
<td>Int</td>
<td>Pre</td>
<td>66.4</td>
<td>120</td>
<td>20</td>
<td>20</td>
<td>28</td>
<td>7</td>
<td>4</td>
<td>99</td>
<td>36:48</td>
</tr>
<tr>
<td>3</td>
<td>Int</td>
<td>Pre</td>
<td>74.8</td>
<td>152</td>
<td>29</td>
<td>29</td>
<td>8</td>
<td>6</td>
<td>2</td>
<td>51</td>
<td>19:51</td>
</tr>
<tr>
<td>4</td>
<td>Int</td>
<td>Pre</td>
<td>69.1</td>
<td>128</td>
<td>12</td>
<td>12</td>
<td>7</td>
<td>6</td>
<td>2</td>
<td>33</td>
<td>18:33</td>
</tr>
<tr>
<td>5</td>
<td>Int</td>
<td>Pre</td>
<td>89.6</td>
<td>175</td>
<td>6</td>
<td>6</td>
<td>13</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>19:15</td>
</tr>
<tr>
<td>1</td>
<td>Int</td>
<td>Post</td>
<td>78.3</td>
<td>154</td>
<td>9</td>
<td>9</td>
<td>15</td>
<td>9</td>
<td>1</td>
<td>13</td>
<td>18:28</td>
</tr>
<tr>
<td>2</td>
<td>Int</td>
<td>Post</td>
<td>71.4</td>
<td>146</td>
<td>11</td>
<td>11</td>
<td>32</td>
<td>13</td>
<td>2</td>
<td>76</td>
<td>38:06</td>
</tr>
<tr>
<td>3</td>
<td>Int</td>
<td>Post</td>
<td>74.3</td>
<td>155</td>
<td>13</td>
<td>13</td>
<td>18</td>
<td>14</td>
<td>4</td>
<td>56</td>
<td>18:39</td>
</tr>
<tr>
<td>4</td>
<td>Int</td>
<td>Post</td>
<td>70.9</td>
<td>145</td>
<td>7</td>
<td>7</td>
<td>12</td>
<td>8</td>
<td>1</td>
<td>34</td>
<td>24:50</td>
</tr>
<tr>
<td>5</td>
<td>Int</td>
<td>Post</td>
<td>86.8</td>
<td>173</td>
<td>14</td>
<td>14</td>
<td>31</td>
<td>11</td>
<td>0</td>
<td>10</td>
<td>25:54</td>
</tr>
<tr>
<td>1</td>
<td>CT</td>
<td>Pre</td>
<td>80.5</td>
<td>156</td>
<td>6</td>
<td>6</td>
<td>15</td>
<td>19</td>
<td>14</td>
<td>5</td>
<td>22:38</td>
</tr>
<tr>
<td>2</td>
<td>CT</td>
<td>Pre</td>
<td>92.9</td>
<td>186</td>
<td>12</td>
<td>12</td>
<td>17</td>
<td>17</td>
<td>8</td>
<td>40</td>
<td>37:43</td>
</tr>
<tr>
<td>3</td>
<td>CT</td>
<td>Pre</td>
<td>89.5</td>
<td>178</td>
<td>28</td>
<td>28</td>
<td>11</td>
<td>9</td>
<td>7</td>
<td>7</td>
<td>23:28</td>
</tr>
<tr>
<td>4</td>
<td>CT</td>
<td>Pre</td>
<td>95.9</td>
<td>192</td>
<td>6</td>
<td>6</td>
<td>20</td>
<td>13</td>
<td>4</td>
<td>10</td>
<td>22:35</td>
</tr>
<tr>
<td>5</td>
<td>CT</td>
<td>Pre</td>
<td>91.4</td>
<td>183</td>
<td>12</td>
<td>12</td>
<td>30</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>24:13</td>
</tr>
<tr>
<td>1</td>
<td>CT</td>
<td>Post</td>
<td>63.1</td>
<td>136</td>
<td>3</td>
<td>3</td>
<td>19</td>
<td>19</td>
<td>32</td>
<td>1</td>
<td>26:42</td>
</tr>
<tr>
<td>2</td>
<td>CT</td>
<td>Post</td>
<td>94.7</td>
<td>198</td>
<td>1</td>
<td>1</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>37</td>
<td>37:55</td>
</tr>
<tr>
<td>3</td>
<td>CT</td>
<td>Post</td>
<td>96.0</td>
<td>194</td>
<td>4</td>
<td>4</td>
<td>36</td>
<td>7</td>
<td>7</td>
<td>33</td>
<td>19:36</td>
</tr>
<tr>
<td>4</td>
<td>CT</td>
<td>Post</td>
<td>91.6</td>
<td>184</td>
<td>23</td>
<td>23</td>
<td>46</td>
<td>24</td>
<td>3</td>
<td>23</td>
<td>22:42</td>
</tr>
<tr>
<td>5</td>
<td>CT</td>
<td>Post</td>
<td>99.6</td>
<td>200</td>
<td>6</td>
<td>6</td>
<td>18</td>
<td>7</td>
<td>5</td>
<td>17</td>
<td>28:36</td>
</tr>
</tbody>
</table>
BIBLIOGRAPHY


