

THE COMPARATIVE EFFECTS OF INDIRECT AND DIRECT MUSIC
TEACHING UPON THE DEVELOPMENTAL MUSIC APTITUDE AND
MUSIC ACHIEVEMENT OF EARLY PRIMARY GRADE STUDENTS

"Submitted to the Temple University Graduate Board
in partial fulfillment of the requirements for the
degree of Doctor of Philosophy."

By

Linda Lee Jessup

May 1984



TEMPLE UNIVERSITY GRADUATE BOARD

Title of Dissertation:

THE COMPARATIVE EFFECTS OF INDIRECT AND DIRECT MUSIC TEACHING UPON THE DEVELOPMENTAL MUSIC APTITUDE AND MUSIC ACHIEVEMENT OF EARLY PRIMARY GRADE STUDENTS

Author:

Linda Lee Jessup.

Read and Approved by:

E. C. Sordly
D. Stearns
Edwin Anderson
E. R. Meyer
Noel A. ...
John M. ...

Date submitted to the Graduate Board April 20, 1984

Accepted by the Graduate Board of Temple University in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

Date 5/23/84

[Signature]
 (Dean of Graduate School)

ACKNOWLEDGMENTS

The writer wishes to express thanks to her co-advisors, Dr. Edwin Gordon and Dr. John Holahan, for their instruction and dedication to scholarly research. Special thanks to Mrs. Margot Richter for her participation in, and support of, the study. Thanks also to Dr. Edmund Amidon, Dr. Roger Dean, Dr. Eve Meyer, and Dr. Stimson Carrow for their scholarly contributions to the final draft of the thesis.

Finally, thanks to my family for their support throughout my graduate study. Thanks to my husband, Peter, for his encouragement and scholarly contributions, especially for creating the computer program used to analyze the data for the system of Music Classroom Interaction Analysis. Thanks also to my children, Laura and Michael, for continually reminding me of the joys of teaching and learning, and the need for research.

TABLE OF CONTENTS

| | Page |
|---|------|
| ACKNOWLEDGMENTS..... | iii |
| LIST OF TABLES..... | vi |
| LIST OF FIGURES..... | vii |
| Chapter | |
| ONE. PURPOSE OF THE STUDY..... | 1 |
| Introduction..... | 1 |
| Purpose..... | 3 |
| Problems..... | 6 |
| TWO. RELATED STUDIES..... | 7 |
| Observation Systems for the Analysis of Music Teaching..... | 7 |
| The Flanders System of Interaction Analysis..... | 8 |
| The Whitehill Study..... | 10 |
| Preliminary Study..... | 15 |
| THREE. DESIGN AND ANALYSIS..... | 24 |
| Sample..... | 24 |
| Procedures..... | 24 |
| Analysis..... | 27 |
| FOUR. RESULTS AND INTERPRETATION..... | 31 |
| Interjudge Reliabilities of Music Classroom Interaction Analysis Categories..... | 31 |
| Indirect/Direct Teacher Verbal Behavior Ratios..... | 33 |
| Means and Standard Deviations of Music Classroom Interaction Analysis Categories..... | 36 |
| Reliabilities for Aptitude and Achievement Criterion Measures..... | 38 |
| Analysis of PMMA Gain Scores..... | 40 |
| Analysis of <u>Silver Burdett</u> Achievement Scores..... | 43 |

TABLE OF CONTENTS - Continued

| Chapter | Page |
|--|------|
| FOUR. RESULTS AND INTERPRETATION (continued) | |
| Analysis of Tonal and Rhythm Patterns | |
| Achievement Scores..... | 46 |
| Analysis of "The Glendy Burk" | |
| Achievement Scores..... | 48 |
| Interpretation of the Results..... | 51 |
| Interjudge Reliabilities..... | 51 |
| Music Classroom Interaction | |
| Analysis Categories..... | 51 |
| Indirect/Direct Teacher Verbal | |
| Behavior Ratios..... | 52 |
| Reliabilities for the Achievement | |
| Criteria..... | 53 |
| Analyses of Variance..... | 54 |
| FIVE. SUMMARY AND CONCLUSIONS..... | 57 |
| Purpose and Problems..... | 57 |
| Design and Analysis..... | 57 |
| Results..... | 59 |
| Conclusions..... | 60 |
| Recommendations for Further Research..... | 60 |
| APPENDICES..... | 62 |
| A. "The Glendy Burk" - Tonal and Rhythm | |
| Rating Scales..... | 62 |
| B. Tonal Patterns - Rating Scales..... | 63 |
| C. Rhythm Patterns - Rating Scales..... | 64 |
| SELECTED BIBLIOGRAPHY..... | 65 |

LIST OF TABLES

| Title | Page |
|---|------|
| 1. Summary of Categories for Interaction Analysis..... | 9a |
| 2. Summary of Categories for Music Classroom Interaction Analysis..... | 16a |
| 3. Means, Standard Deviations, Standard Errors, and Ranges for Music Classroom Interaction Analysis Categories..... | 19 |
| 4. Test-Retest Rater Reliability for Music Classroom Interaction Analysis Categories..... | 20 |
| 5. Intercorrelations for Music Classroom Interaction Analysis Categories..... | 22 |
| 6. Interjudge Reliabilities for Music Classroom Interaction Analysis Categories..... | 32 |
| 7. Interjudge Reliabilities for Music Classroom Interaction Analysis Categories for Individual Classes..... | 34 |
| 8. Medians and Ranges for the Two Types of I/D Ratios by Treatment, Class, and Teacher..... | 35 |
| 9. Means and Standard Deviations for Music Classroom Interaction Analysis Categories..... | 37 |
| 10. Means, Standard Deviations, and Reliabilities for Aptitude and Achievement Criteria..... | 39 |
| 11. Means and Standard Deviations of PMMA Gain Scores by Treatment, Aptitude Level, and Teacher, and Analysis of Variance Data..... | 41a |
| 12. Means and Standard Deviations of Silver Burdett Achievement Scores by Treatment, Aptitude Level, and Teacher, and Analysis of Variance Data..... | 44a |
| 13. Means and Standard Deviations of Tonal and Rhythm Patterns Achievement Scores by Treatment, Aptitude Level, and Teacher, and Analysis of Variance Data..... | 47a |
| 14. Means and Standard Deviations of "The Glendy Burk" Achievement Scores by Treatment, Aptitude Level, and Teacher, and Analysis of Variance Data..... | 49a |

LIST OF FIGURES

| Title | Page |
|-----------------------------|------|
| 1. Experimental Design..... | 30 |

CHAPTER ONE

PURPOSE OF THE STUDY

Introduction

It is difficult to measure and evaluate teacher effectiveness objectively. Subjective administrative consensus frequently is substituted for valid measures of teacher effectiveness. The objective measurement of student achievement, however, is probably the most important criterion for evaluating teacher effectiveness. To accomplish that, valid measures of student achievement and aptitude should be used. One's achievement should not be compared only to the achievement of others, but compared to one's own aptitude and previous achievement as well. Students' achievement can be maximized by the effective teacher.

The extent of student achievement is influenced by many factors. One of those factors is the social-emotional climate of the classroom. It is generally accepted that teacher behavior influences students and results in observable behavior interactions among teacher and students.

In 1960, Flanders developed a system for observing

verbal behavior interactions among teacher and students.¹ In that system, teacher statements to the students are classified initially as either direct or indirect. Each classification includes categories. Direct statements tend to minimize a student's freedom to respond, whereas indirect statements tend to maximize a student's freedom to respond. Flanders investigated the effects of direct and indirect teacher verbal behavior on the achievement of eighth grade students who were studying geometry and social studies. He found that students learned significantly more from indirect teaching than from direct teaching, as measured by written achievement tests.²

Research pertaining to the systematic interaction analysis observation of teachers and students in music classes has been minimal. Many music researchers have rejected the Flanders system. Erbes claims that the categories are inadequate to describe validly music rehearsal activities.³ Froehlich states that an

¹Ned A. Flanders, Interaction Analysis in the Classroom: A Manual for Observers (Minnesota: College of Education, 1960).

²Ned A. Flanders, Teacher Influence, Pupil Attitudes, and Achievement (United States Department of Health, Education, and Welfare, Office of Education, Cooperative Research Project No. 397, Minneapolis: University of Minnesota, 1960), pp. 113-115.

³Robert L. Erbes, "The Development of an Observation Instrument for the Analysis of Interaction in the Rehearsal of Musical Organizations" (Ed.D. dissertation, University of Illinois, 1974).

observation instrument must be task-oriented to measure validly teaching effectiveness.⁴

Whitehill, however, adapted Flanders' system of interaction analysis for the music classroom. To Flanders' system, Whitehill added five categories to observe nonverbal and music performance behaviors. Music teachers from the same school district were ranked by their supervisor of music and an independent panel of judges according to the criterion of effective classroom teaching. Whitehill's results indicate that music teachers considered to be more effective in terms of a high ranking by the supervisor and judges are more indirect in their music teaching behavior. In contrast, music teachers considered to be less effective in terms of a low ranking by the supervisor and judges are more direct in their music teaching behavior.⁵

Purpose

The evaluation of public school music teachers typically is based upon subjective methods. Teachers frequently are frustrated because such evaluations seem to be weighted heavily on such factors as personality,

⁴Hildegard Froehlich, "The Relationship of Selected Variables to the Teaching of Singing," Journal of Research in Music Education 25 (1977):117.

⁵Charles D. Whitehill, "The Application of Flanders' System of Classroom Interaction Analysis to General Classroom Music Teaching," (Ph.D. dissertation, University of West Virginia, 1970).

punctuality, and organizational ability, rather than on music content and musicianship. In addition, music teachers often express concern that administrators, who are responsible for evaluation, have little knowledge of the methodology and content of music instruction.

A systematic investigation of factors contributing to success in music teaching is needed. It is assumed that the verbal behavior of both teacher and students is one of the most important factors in successful teaching. To classify the verbal behavior interactions among teacher and students is fundamental to the objective measurement and evaluation of the pedagogical effectiveness of music teachers. One of the ways Flanders classifies teacher verbal behavior is indirect or direct.

A music teacher may establish a style of behavior interactions with students which may, or may not, be conducive to learning. An indirect music teacher, for example, may praise students, use ideas suggested by students, ask questions, and engage in music echo responses. In comparison, a direct music teacher, for example, may lecture, give directions, criticize, and play music for listening.⁶ An indirect music teacher may stimulate students and encourage music achievement, whereas a direct music teacher may disinterest students and inhibit

⁶Only negative statements made by a teacher are considered criticism.

music achievement.

Consideration should also be given to behavior as it may differentially affect students' developmental music aptitude in the early primary grades. Students with low aptitude may benefit from direct music teaching because they learn more efficiently in a classroom where independent thinking is not emphasized. Students with high aptitude, however, may benefit from indirect music teaching because they learn more efficiently in a classroom where independent thinking is emphasized.

There is no objective process for music supervisors to evaluate music teachers. To evaluate music teachers validly, the objective measurement of the interaction between direct and indirect teacher verbal behavior with students' success in the music classroom may be important. An indication of successful music teaching in the early primary grades may be an increase in students' overall developmental music aptitude scores and music achievement scores.⁷ Thus, the purpose of this study is to determine the comparative effects of indirect and direct music teaching upon the developmental music aptitude and music achievement of early primary grade students.

⁷Developmental music aptitude fluctuates until age nine. That fluctuation is due to environmental factors inside and outside the classroom. Music aptitude stabilizes at approximately age nine. A detailed explanation may be found in the manual for the Primary Measures of Music Audiation, by Edwin Gordon (Chicago: G.I.A., 1979).

Problems

The problems of this study are to answer the following specific questions:

1. For early primary grade students, does indirect or direct music teacher behavior affect differentially the overall developmental music aptitude scores of students with high music aptitude and students with low music aptitude?

2. For early primary grade students, does indirect or direct music teacher behavior affect differentially the music listening achievement of students with high music aptitude and students with low music aptitude?

3. For early primary grade students, does indirect or direct music teacher behavior affect differentially the performance of rote songs and tonal and rhythm patterns of students with high music aptitude and students with low music aptitude?

CHAPTER TWO

RELATED STUDIES

Observation Systems for the Analysis of Music Teaching

Research about the development and use of observation systems for the analysis of music teaching occurred primarily in the 1970's. Although music education researchers agree that the objective observation of verbal behavior interactions among teacher and students can be accomplished, those researchers do not agree on which observation system is most appropriate for the analysis of music teaching. In eight studies, seven different observation systems were used for the purposes of 1) describing current classroom practice, 2) preparing music student teachers, 3) instructing music teachers, and 4) determining the relationship between classroom environment and student achievement.¹

Although several authors have examined interaction analysis as an observation instrument, only Whitehill

¹For an overview of seven of those studies, consult Phyllis Dorman, "A Review of Research on Observation Systems in the Analysis of Music Teaching," Council for Research in Music Education 57 (Winter 1978):35-44. In that article Charles D. Whitehill's name is incorrectly spelled "Whitehall." Dorman provides a detailed bibliography.

investigated the Flanders System of Interaction Analysis. In his study, Whitehill's purpose was to determine if the Flanders system could be adapted to discriminate among general music teachers with different teaching abilities.

The Flanders System of Interaction Analysis

A list of categories of interaction analysis described by Flanders and Amidon can be found in Table 1. The table includes a description of each category in addition to directions for using the table. Verbal statements made in the classroom are classified initially into one of the three sections in the table. Teacher statements, the first section, are Categories 1, 2, 3, 4, 5, 6, and 7. Students statements, the second section, are Categories 8 and 9. Silence, confusion, or anything other than teacher verbal behavior or students' verbal behavior, the third section, is Category 10.

Flanders further subdivides teacher statements as either Direct or Indirect. The classification of teacher verbal behavior is dependent upon the amount of freedom the teacher grants to the student. The Indirect categories are 1, 2, 3, and 4; they tend to maximize a student's freedom to respond. The Direct categories are 5, 6, and 7; they tend to minimize a student's freedom to respond.

TABLE 1

SUMMARY OF CATEGORIES FOR INTERACTION ANALYSIS²

| CATEGORY CATEGORY NUMBER | | |
|--------------------------|-----------|--|
| TALK | INFLUENCE | 1. <u>ACCEPTS FEELING</u> : accepts and clarifies the feeling tone of the students in a nonthreatening manner. Feelings may be positive or negative. Predicting or recalling feelings is included. ³ |
| | INDIRECT | 2. <u>PRAISES OR ENCOURAGES</u> : praises or encourages student action or behavior. Jokes that release tension, but not at the expense of another individual; nodding head, or saying "m hm?" or "go on" are included. |
| | DIRECT | 3. <u>ACCEPTS OR USES IDEAS OF STUDENTS</u> : clarifies, builds, or develops ideas suggested by a student. As more of the teacher's ideas are brought into play, shift to Category 5. |
| TEACHER | INDIRECT | 4. <u>ASKS QUESTIONS</u> : asks a question about content or procedures with the intent that a student will answer. |
| | DIRECT | 5. <u>LECTURES</u> : gives facts or opinions about content or procedures; expresses the teacher's own ideas, asks rhetorical questions. |

²Table 1 is adapted from the Summary of Categories for Interaction Analysis found on page 14 of The Role of the Teacher in the Classroom, rev. ed. (St. Paul: Association for Productive Teaching, 1971), by Edmund J. Amidon and Ned A. Flanders.

³Ibid., pp. 8-9. "Feeling tone" in the Flanders system indicates that the teacher understands and accepts how a student feels, that the student has the right to have that feeling, and that the student will not be punished even if the feeling expressed is negative.

TABLE 1 - Continued

| CATEGORY | | CATEGORY NUMBER |
|--------------|------------------|---|
| TEACHER TALK | DIRECT INFLUENCE | 6. <u>GIVES DIRECTIONS</u> : gives directions, commands, or orders with which a student is expected to comply. |
| | | 7. <u>CRITICIZES OR JUSTIFIES AUTHORITY</u> : makes statements intended to change student behavior from a nonacceptable to acceptable pattern; reprimands someone; states what and why the teacher is doing; extreme self-reference. ⁴ |
| STUDENT TALK | | 8. <u>STUDENT TALK--RESPONSE</u> : statements by students in response to the teacher. Teacher initiates the contact or solicits student statement. |
| | | 9. <u>STUDENT TALK--INITIATION</u> : statements by students, which they initiate. If "calling on" student is only to indicate who may talk next, observer must decide whether student wanted to talk. If student wanted to talk, use this category. |
| | | 10. <u>SILENCE OR CONFUSION</u> : pauses, short periods of silence, and periods of confusion in which communication cannot be understood by the observer; also insert between 8's and 9's when students talk in succession (no teacher interruption). |

⁴Ibid., p. 11. Included in Category 7 are a teacher's statements of defense or self-justification. Such statements include a teacher's actions or authority, a teacher's defense against a student, and a teacher's justification of authority.

The Whitehill Study⁵

In Whitehill's procedure, twenty-four general music classroom teachers within one school district were ranked by several judges according to the criterion of teaching ability.⁶ Initially, the music supervisor ranked the twenty-four teachers "according to their ability to bring about exceptional growth in musical skills, knowledge, understanding, and positive attitudes toward music."⁷ Three additional judges, each of whom was a college music education professor, subsequently ranked the teachers according to the previously stated criterion. Judges did not rank teachers whom they did not know.

There was statistically significant agreement among judges' rankings as calculated by Kendall's Coefficient of Concordance. To investigate more specifically the criteria used in ranking general classroom music teachers, judges completed a questionnaire consisting of thirty-five paired statements. Each statement was ranked from one to five; one was most important and five was least important for good general classroom music teaching.⁸

⁵Whitehill, "Application of Flanders' System."

⁶Ibid., p. 59.

⁷Ibid., p. 60.

⁸Ibid., p. 70.

It is interesting to note that the extent of agreement among the judges' responses to the questionnaire was not statistically significant. It seems a paradox that the judges agreed on subjective teacher rankings yet disagreed on objective statement ratings, when both procedures were predicated upon the same criterion of good general music classroom teaching. That may be an indication that the judges' teacher rankings, or the judges' questionnaire ratings, or both, are invalid measures of good music teaching.

The six teachers at the top and the six teachers at the bottom of the judges' combined rankings were selected for observation. Whitehill observed each teacher for approximately six hours. Classes "which represented standard classwork in general music" from grades six to nine were observed.⁹ A seventh teacher included later in the group was ranked low, but the reason for adding that teacher is not clear.

There are additional inconsistencies in the procedure and design of Whitehill's study. The number of different classes taught by the teachers ranged from one to seven. Three teachers taught sixth grade, whereas the remaining teachers taught seventh, eighth, and ninth grades. Sixth grade classes were grouped heterogeneously, however, seventh, eighth, and ninth grade classes were

⁹Ibid., p. 62.

grouped homogeneously according to academic aptitude and achievement. Three teachers were observed in a single school and some teachers were observed in as many as three schools. The number of observations of each teacher ranged from three to eleven.¹⁰ Those confounding factors possibly could have contributed to Whitehill's spurious results and questionable conclusions. Whitehill states:

The teachers in the two groups probably differ in ability but do not necessarily represent norms of music teaching ability and therefore, because of the small number of teachers in each group, differences may not be generalized to music teachers as a whole.¹¹

Whitehill added five categories to Flanders' system to provide for the observation and analysis of nonverbal and music performance behaviors typically demonstrated by general music teachers and students. Those additional categories are nonverbal praise and encouragement, lecturing performance, nonverbal criticism, student performance--response, and student performance--initiation.¹²

Whitehill was self-taught in the observation system. To investigate rater reliability, Whitehill re-categorized tape recordings of six class periods. The Scott coefficients for observer agreement were calculated

¹⁰Ibid., p. 91.

¹¹Ibid., p. 69.

¹²Ibid., pp. 75-78.