AN INVESTIGATION OF THE EFFECTS OF VISUAL DIAGNOSTIC SKILLS DEVELOPMENT ON THE INSTRUCTION AND ACQUISITION OF BASIC CONDUCTING SKILLS FOR BEGINNING CONDUCTORS

DISSERTATION

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

By

David Edmund Scott, B.M.E., B.M., M.M.

* * * * *

The Ohio State University

1992

Dissertation Committee:
A. Peter Costanza
Judith K. Delzell
Craig J. Kirchhoff

Approved by

Advisor
School of Music
Copyright by

David E. Scott

1992
To my mother
Eileen Scott,
and to the memory of my father
Douglas Scott
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VITA

September 9, 1960 ................... Born - Tucson, Arizona

1982. ............................... B.M.E., Baylor
University, Waco, Texas

1983. ............................... B.M. in Euphonium
Performance, Baylor
University, Waco, Texas

1983 - 1988. ......................... Assistant Director of
Bands, J. Frank Dobie
High School, Pasadena
Schools, Houston, Texas

1988 - present. ....................... Graduate Teaching
Associate, School of
Music, The Ohio State
University, Columbus, Ohio

FIELDS OF STUDY

Major Field: Music

Studies in Music Education: Professors A. Peter Costanza,
Judith K. Delzell, Patricia J. Flowers, Timothy A. Gerber
and Jon R. Woods

Studies in Wind Conducting and Literature: Professors Richard
L. Blatti, Craig J. Kirchoff and Christopher R. Weait

Studies in Euphonium Performance: Professor Paul E. Droste
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CHAPTER I

INTRODUCTION

The act of conducting plays an important role in music making. There are many ways to conduct an ensemble, and many gestures to accomplish the communication necessary between the conductor and the ensemble. According to Prausnitz, "The physical aspect of conducting reflects the flow of musical ideas in the conductor’s mind and controls their implementation by the orchestra" (1983, p. 17). From the viewpoint of the audience it may seem that there is little if any method or consistency to the techniques that conductors employ, even though there is often a great deal of thought put into most gestures used by conductors. As Green states, "to stand in front of an orchestra, band or chorus and beat time does not make one a conductor" (Green 1987, p. 1). Rudolf writes, "there is a technique of conducting just as there is a technique of playing an instrument" (1980, p. xv).

The gestures and techniques used by conductors are often learned in undergraduate college conducting courses. Young musicians are instructed in the ways of the art, and then take what they have learned of these skills into the workplace with them.
Music educators spend much of their time using conducting gestures as their main form of communication. Jennings (1988) found that high school and college band directors feel conducting is one of the primary competencies that recent college graduates in music must demonstrate. Even those conductors that go beyond the regular classroom setting must maintain their role as educators. Green states that "no conductor can disassociate himself completely from the teaching facet of his trade" (1987, p. 2).

Since conducting plays such a major role in the music education process, it seems only right that trained musicians should be able to communicate using conducting gestures. Long states that "it is important that the student conductor learn to conduct even the most elementary patterns with utmost clarity" (1977, p. 68).

The specific gestures used by conductors can have a great effect on the performance of the group they are leading. Not only basic beat patterns, but gestures intended to signify phrasing, note shapes, pitch tendencies and other aspects of musical performance are used regularly from the podium in a non-verbal manner. Roshong found a consistent use of such non-verbal communication patterns among conductors, and suggests that

Conductors, teachers of conducting and students of conducting might gain better control and understanding of their conducting task by the systematic study of both the general nature of nonverbal communication and their own nonverbal behavior. (1978, p. 84)
In addition, Grechesky (1985) showed that non-verbal gestures had a significant effect on the musical performance of high school musical ensembles. His research suggests that fluency in these gestures would be helpful to conductors of any ensemble.

A lack of fluency in these gestures will very likely come through in the performance of the ensemble being conducted. A conductor that can recognize, diagnose and correct problems before the ensemble has time to react negatively to the musical issues should be more effective in the rehearsal process. Conductors who can hear problems in an ensemble's performance and identify possible reasons for those errors in their own conducting performance should be able to quickly correct the conducting errors, thereby avoiding frustration on the part of the ensemble, and enhancing rehearsal time for all involved in the musical process.

Need for the Study

After their undergraduate years, there is little opportunity for musicians to improve their conducting skills in a classroom or laboratory setting. As Hunsberger & Ernst note,

The improvement of college conducting classes is a matter of widespread concern, particularly since a large percentage of graduates use their conducting skills extensively during their careers and many -- perhaps most -- will receive no additional formal instruction (1983, p. v).
Since there are few opportunities for being involved with a classroom-based learning situation as a conductor after the college years, there is a need to instruct conducting students in self-assessment skills and the ability to diagnose problems in their own physical technique, as well as the technique of their colleagues in the profession. This training could give conductors the opportunity to improve in the necessary skills of the profession, while not necessitating a return to a classroom setting for that instruction.

**Statement of the Problem**

Since there is little opportunity for instruction in conducting technique outside the college setting, there is a need for a method of instruction that will give conductors the opportunity to continue improvement of their conducting skills in a non-classroom setting. This method would include instruction in self-assessment, diagnostic skills, and transference of visual stimuli from self and others into information that will give insight into physical changes that are necessary to improve one's technical conducting skill.

A method such as this would give students the opportunity for lifelong learning and refinement of the conducting skills that they will utilize throughout their professional careers.

**Purpose of the Study**

The purpose of this study was to investigate the effectiveness of the development of visual diagnostic skills as a pedagogical tool in the instruction of basic conducting techniques to beginning
conductors. While instruction, demonstration and modeling have long
been used, there seems to be a lack of evaluative and diagnostic
methods utilized in college level conducting classes.

This research was intended to examine the effects that such
methods might have on the instruction of conducting for beginners in
the following areas and techniques: posture and baton position,
beat patterns, left hand techniques, and legato and staccato style.

Hypotheses

Research Hypotheses.

1. Subjects shown a videotape that gives both instructional
and demonstration information as well as diagnostic opportunities
will score significantly higher on a diagnostic skills posttest than
those subjects shown a purely instructional videotape.

2. Beginning conductors who have been shown videotapes of
instruction and demonstration of conducting techniques and given
opportunities to diagnose conducting problems will show a
significantly higher level of improvement in selected conducting
skills than subjects that have been shown purely
instructional/demonstration videotapes.

Null Hypotheses.

1. There will be no significant difference of scores on a
diagnostic skills posttest between those subjects shown a videotape
that gives both instructional and demonstration information as well
as diagnostic opportunities and those shown a purely instructional
videotape.
2. There will be no significant difference in the improvement of selected skills of beginning conductors who have been shown videotapes of instruction, demonstration and diagnosis of conducting problems and those that have been shown purely instructional/demonstration videotapes.

Assumptions

All subjects in this study are considered as beginning conductors. Subjects reported little or no prior conducting experience nor instruction in conducting.

Beat patterns used in this study are those that have come to be accepted as standard. The three- and four-beat patterns will be the only patterns used in this study.

While often considered separate entities for pedagogical reasons, all individual components of the beat pattern are considered as a whole for this research. These components include the preparation, the ictus, the rebound, and the speed of the gesture.

Definition of Terms

The following terms are defined to reflect their use and relevance to the current study:

Beat Patterns: Patterns used by the conductor to convey meter of piece. These will be performed with the right hand, using the baton. The two patterns used in this study are defined below.

three-beat pattern: A pattern used in music that divides measures into three-beat measured units. The pattern utilizes a
downward motion in the middle of the conductor's body, beginning at approximately eye level and ending between the sternum and the waist; a second beat which moves to the conductor's right, at about the same height as the end of beat one; and a third beat which moves back toward the center of the conductor's body, then up, so that the pattern may be repeated.

**four-beat pattern:** A pattern used in music that divides measures into four-beat measured units. This pattern utilizes a downward motion in the middle of the conductor's body, again beginning at eye level and ending in the middle of the torso; a second beat which moves to the conductor's left on the same plane as the end of beat one; a third beat which moves across the body to the conductor's right, on the same plane and equidistant from the center as the point where the second beat was placed; and a fourth beat, which returns to the center of the body and up, so that the pattern may be repeated.

**Preparation:** The part of the beat pattern that signifies that the music is about to begin. This is normally shown by executing the motion of the beat prior to the starting beat of the music. Once the music (and the pattern) has started, the preparation becomes the part of the gesture that shows where the next ictus point will occur.

**Ictus (ictus point):** The portion of the beat pattern that signifies where the beat actually occurs. This is signified by a quick, downward motion of the wrist and hand, and an immediate change of direction away from the ictus point.
Rebound: The portion of the beat which comes away from the ictus. This portion of the beat should not be greater than one-half the size of the preparation of the same beat.

Travel speed (speed of the gesture): A combination of the rebound and the preparation. The speed which the hand and arm travel to get to the next beat. This portion of the beat pattern can be used to show style, accents, and tempo changes.

Left hand techniques: Motions of the left hand that are used to convey messages to the ensemble, often style or dynamic gestures. These are used in addition to the beat pattern from the right hand to increase musical communication from the conductor.

Tempo indications: Markings at the beginning of a piece of music that identify the speed of the music. For this study, all musical excerpts were marked with a "Maezel's Metronome" marking, a standard indication of how many beat units should occur every minute. Therefore, an excerpt marked "MM = 112" should have a beat that sounds 112 times per minute, or just less than twice per second.

Facial gestures: Expressions made using the face and eyes. These gestures are often employed to further enhance gestures made with the hands and arms. While an integral part of conducting, these gestures are normally not focused upon in the conducting curriculum until the right- and left-hand techniques have been thoroughly covered.

Visual diagnostic skills: Skills that result from the ability to identify problems by sight. In this instance, the skills in
question are those that are used in the visual detection and identification of errors in the basic conducting techniques.

Throughout this text, certain terms defining elements of conducting will be used in ways more specific than the general definition these terms might normally convey. Descriptive definitions of these terms are as follows:

**Posture:** Conductor standing erect, shoulders, elbows, wrists and hands in physically and visually comfortable position, weight evenly distributed on balls of feet, feet slightly apart, not leaning noticeably to either side, forward or back.

**Baton Position:** Fingers and palm of right hand closed around handle, but not too firmly, stick generally parallel to floor, tip pointed slightly to the left of center of the ensemble, shape of arm and baton generally an uninterrupted straight line.

**Legato style:** Style of conducting that is smoother, rounder than others. Wrist and baton tend to follow behind the arm and spend a greater amount of time at the beat points. Attempts to show the more connected flow of legato playing in musical passages.

**Staccato style:** Style of conducting that is shorter, more bouncy in style than other conducting gestures. Wrist is used rather than elbow motion and the baton moves more than any part of the right hand. Used to convey the lightness of staccato musical passages.
Limitations

There are many areas of physical conducting technique. The areas and techniques chosen for this study are basic areas of proficiency for conductors. These are the foundation for further growth in the technical aspects of conducting. To include too many areas would possibly confuse the subjects, as well as diminish possible gains in the basic areas of observation. For these reasons, the only aspects of conducting technique investigated in this study will be: posture and baton position, beat patterns, left hand techniques, legato style, and staccato style.

However, two additional areas were included in the evaluation of the subjects' conducting proficiency: the use of facial gestures and adherence to tempo indications. This inclusion was meant to explore the subjects' growth in other areas of conducting. These areas were chosen as areas representative of further growth, and were not part of the instruction that subjects received during the study. The data were investigated both with and without these areas included.

The subjects used in this study were limited to students enrolled in Music 261.11 -- Basic Conducting during Autumn Quarter, 1991 at The Ohio State University. The findings and implications of this study are limited to the population sample.
CHAPTER II

REVIEW OF RELATED LITERATURE

The purpose of this study was to investigate the effectiveness of the development of visual diagnostic skills as a pedagogical tool in the instruction of basic conducting techniques to beginning conductors. The literature relevant to this research can be divided into several classifications: conducting as a form of communication, the teaching of conducting, the use of videotape and other technologies for feedback and instruction, the teaching of diagnostic evaluation and error-detection skills, elements of self-evaluation, the use of modeling techniques in instruction and the transference of visual feedback to the improvement of physical technique.

Conducting as Communication

There seems to be little doubt in the literature about the importance of clarity in conducting technique. Long states that "a conductor whose signals are clear and uncomplicated will communicate more clearly to the musicians in less time" (1977, p. 68). In a similar statement, another conducting pedagogue reports
Many conductors fail to realize the importance of conducting technique itself. They accept sloppy entrances or choppy legatos, blaming the poor quality of their musicians, whereas the trouble probably is caused by their own right arms (McElheran, 1989, p. 9).

Other indications of the importance of the use and control of the body while conducting are found throughout the literature. Green (1987) suggests, "The conductor's slightest gesture has an impact on players who have been trained to watch" (p. 5). Krause (1983) discusses "the importance of stance and gesture in assisting singers of all ages to maximize their vocal potential." McElheran warns "when they [musicians] are constantly trying to decode a succession of vague and confusing gesticulations they become highly dangerous" (1989, p. 6).

Snyder (1986) used conducting gestures to evaluate first, third and fifth graders' ability to communicate the interpretive aspects of music. The study showed that the basic conducting gestures are not an accurate tool to show the ability to interpret music at this stage of development. While the study itself has little bearing on the present research, it is interesting to note that researchers consider the use of conducting gestures to be a legitimate means of non-verbal communication. This study also suggests that there should be other interpretive skills used by both the conductor and the ensemble for musical understanding to be communicated properly.
In a study that comes to a similar conclusion from a different approach, Silkebakken (1988) investigated what visual attributes have enhancing or detracting effects on those observing the conducting. The study found that while no visual attributes were deemed specifically enhancing or detracting, the "expressiveness" of the conductor was the best predictor for the "Overall Effectiveness Rating" given by each judge. These studies show that the expressive qualities of conducting are not found merely in the basic gestures.

For proper communication, the conductor must use language that may be understood by the ensemble being conducted. In his dissertation, Sousa (1988) found that 38 common conducting gestures were recognized and properly identified by a majority of subjects. In contrast, 17 gestures were not recognized and identified by a majority of the subjects. The gestures in the study ranged from gestures of dynamic contrasts to placing the left index finger on the left ear. The gestures identified by the majority should certainly be useful to any conductor. In another study relating to gestures, Bartee (1978) reported subjects increased their awareness of their ability to use the body for expressive means by studying the work of Rudolf Laban, a movement theory which is normally associated with modern dance techniques.

In an attempt to define a specific conducting vocabulary that could be used by any conductor, Patterson (1984) investigated the use of gestures by choral conductors at the high school level. The study showed that some gestures, especially facial gestures, were used by more than 50% of the conductors. Conversely, in a study
that investigated junior and senior high school band conductors, Sherrill (1986) found minimal facial expression used in rehearsal situations. For those that would argue that facial gestures and other "body language" can change because of the conductor's personal feelings about himself or herself and his or her attitude toward an ensemble, Simons (1984) reports that there is no correlation between self-concept and communication skills. While the emotions of a person are shown in his or her gestures, this study seems to indicate that overall self-concept is not detrimental to the effective use of verbal and nonverbal communication techniques.

The Teaching of Conducting

The pedagogy of conducting has been a topic of much interest in recent years. Labuta (1965) notes the need for teaching objectives and evaluation measures in areas pertaining to the skills and habits of young conductors. Zirkman (1984) showed that conducting technique, score analysis and memory and rehearsal techniques were the subjects most often taught in conducting class. He also states that visual observation was the most frequent form of evaluation. The National Association of Schools of Music (NASM) advocates a similar set of criteria, stating that instruction of conducting should include "score reading and the integration of analysis, style, performance practices, and baton techniques" (1987, p. 59).

Another organization interested in the teaching of conducting is the College Band Directors National Association (CBDNA). The
desired outcomes for conducting classes as established by this body include:

1. demonstrate effective technical facility;
2. demonstrate coordinated conducting gestures;
3. convey proper interpretation and style through baton technique;
4. familiarity with various methods of score study and memorization;
5. competency in score analysis;
6. familiarity with the psychology of rehearsing and psychological differences in players (1977, p. 12).

While not attempting to minimize the need for effective score study and analysis techniques, it is apparent from this listing that the CBDNA considers the technical, physical aspects of conducting as a primary skill in the profession.

The conducting curriculum at the college level was enough of a continuing concern that the CBDNA formed a research committee to investigate and report on the state of conducting programs at the undergraduate level. To identify and examine the possible problems, the committee sent questionnaires to the membership of CBDNA. While the response rate was relatively low, respondents reported that the top three competencies their students needed to demonstrate were use of patterns, expressive gestures, and use of the left hand (Deal, et al., 1985). A previous questionnaire used in a study by Morosic (1979) found that, according to 150 college band directors, the most
important elements of a wind band conducting text would be
"appropriate examples with concise discussions relative to specific
conducting problems, clear diagrams of beat-patterns, discussion on
the use of the left hand in conducting, and discussion on starting
and stopping." A pedagogical tool that incorporated all of these
elements would seemingly be welcomed by the profession.

Researchers have also investigated processes to instruct
students in conducting and its function as a form of communication.
Hausmann (1984) developed a procedure that instructed students in
the transference of analytical information into verbal and nonverbal
communication.

In addition to research on conducting pedagogy, several
researchers have developed instruments to evaluate both conductors
and the training of conductors. Berz (1983) developed an instrument
that was helpful in identifying common nonverbal communication
techniques used by conductors. This instrument and the
classification system that resulted from its use have definite
applications in the teaching process. Ervin (1976) studied the
effectiveness of 35 variables in discriminating between good and bad
conducting habits. The study showed that 11 of these were effective
discriminators, and these were incorporated into an observation and
evaluation tool for conductors.

Karpicke (1987) developed an instrument to assess the
relationship between a conductor's gestures and the response those
gestures elicited from an orchestra. The Gesture Response
Instrument provides immediate feedback as to the relative success or
failure of a gesture to communicate the conductor's wishes. This tool has definite implications for use in a conductor training program.

One of the many concerns in the teaching of conducting, especially in the instrumental setting, is the need for appropriate repertoire. While many adapt concert literature from the wind and orchestral repertoire, Clark (1974) used original excerpts for 75 of the 83 musical examples used in his study.

There is also a need for the increased use of technology in the instruction process of conducting. Schwaegler (1984) reports on the use of computers to assist in the instruction of conducting patterns. Computer-based instruction programs and feedback were used for training students in the proper performance of beat patterns. While he had hypothesized that various forms of feedback during the performance of an exercise would have negative effects, Schwaegler found that all forms of feedback, both negative reinforcement and positive reinforcement, had positive effects on the conducting students.

**Use of Videotaped Instruction/Feedback**

The use of videotape recording has expanded the possibilities of demonstrating, responding to, and increasing awareness of action in many facets of education. Modeling plays an important part in the educational process. Williams states

When teaching a particular skill, an instructor usually attempts to communicate the idea of how to move to the
learner by means of a visual demonstration which shows the desired movement pattern performed by a model (1989, p. 259).

Modeling has expanded in the era of videotape, since the demonstration may be repeated countless times with no deviation from the original modeling sequence. This repetition can be very useful in the conducting class.

According to Grashel, the University of Kansas now utilizes a videotaped instructional system in its beginning conducting program. The system provides the student with self-paced learning opportunities:

All conducting techniques are demonstrated, providing students with a visual model that can be reviewed at the students’ discretion. An accompanying text gives written module objectives, descriptors, and content concerning conducting terminology and transposition (Grashel, 1991, p. 37).

Jordon (1980) showed that the use of videotaped material to supplement the instruction in conducting classes was very effective. His research also showed that students felt that time spent with the videotaped supplementary material was valuable and more interesting than time spent practicing individually. Keller (1979) found that videotape feedback was effective in the instruction of conducting techniques, especially in the areas of posture and baton position.
Using a similar approach in a different setting, Saker (1983) found that student teachers were more confident in their perceived ability to handle behavior management problems when taught using videotaped instruction and demonstration units.

**Diagnostic Evaluation and Error-Detection**

Evaluation of others is often a positive way to learn. Woods (1979) developed the *Instrumental Diagnostic Tests*, aimed at providing a way to train young instrumental music teachers in diagnosing common problems in the area of beginning wind instrument instruction. These tests were successful at giving students an opportunity to diagnose and offer corrective solutions for common problems in wind instrumentalists. The *Visual Diagnostic Skills Program* (Froseth, 1978) is an example of resources available for the instruction of these diagnostic skills for instrumental instruction.

Similarly, Gillespie (1985) developed materials that assisted in the diagnosis and correction of common problems in violin bowing. The level of significant difference found in each of these studies suggests that the instruction of diagnostic skills to teachers is an effective means of improving the level of effective diagnosis and correction of problems in instrumentalists.

Another area of interest to the current study is the effect that diagnostic skills might have on self-evaluation. Blair (1984) shows that teachers changed their classroom behaviors after observing peers videotaped in similar classroom situations. The situations shown on the videotapes were negative classroom
behaviors. The teachers that observed the tapes reportedly took steps to avoid such behaviors in their own classrooms. Additionally, Wilson reports that negative examples shown on videotape often result in the use of teaching behaviors that counteract the possibility of the same actions happening to the observer in a real situation (1987, p. 79). It would seem that this evaluation and modification of personal tendencies could be used to improve the conducting techniques of beginning conductors.

There may be a relationship between experience and the effectiveness of diagnostic ability. Aural diagnostic ability seems to decrease in variance as the group being studied matures. Williams (1984) shows that professional conductors varied less than beginning students in responses to an aural evaluation of recorded performances. Experience would seem to play a role in the ability to detect errors and offer solutions for the detected problems.

Error detection skills used by the conductor have been presented in several studies. While Forsythe and Woods (1983) state that aural detection skills are lessened during the act of conducting, DeCarbo (1982) suggests that podium-based instruction (where the student is actively involved in conducting while trying to aurally detect errors) is beneficial to the development of error detection skills, since the training is given in the setting in which the student will eventually need to use the skill.

Blocher (1986) investigated the ability of college instrumentalists to detect common performance errors, both while listening to excerpts and while listening to and conducting the same
excerpts. The study showed no significant difference in the ability to identify errors in listening only and conducting tasks. In a similar study Deal (1985) implemented a computer-assisted programmed instruction unit to teach aural error detection skills. The study showed no significant difference in computer-assisted and regular instruction in detection skill improvement.

**Self-Evaluation**

Yarbrough (1987) shows that self-assessment and self-observation can be effective tools in the teaching of conducting. This study shows that "by focusing student attention to the correction of inappropriate behaviors through self-observation and self-critiques, it was possible to achieve substantial improvement in a relatively short time" (p. 188).

The CBDNA committee previously mentioned reported that only six percent of the respondents listed "self critique skills" as a goal/objective for their classes (Deal, et al, 1985, p. 15). It is interesting to note that of the members that reported videotaping the students in class (79%), 97% responded that their students critiqued their videotaped performances (Deal, et al, 1985, p. 17). While self-criticism was a part of many classes, it seems that few instructors thought of this as a skill in need of development, or as an important part of the class objectives.

**Modeling**

Modeling has been used in many areas of teaching music. Conducting is an aspect of music that can be and has been taught by
modeling for many generations. Recent studies have investigated modeling techniques in the conducting class. Leppla (1989) used a series of videotaped modeling sessions to investigate the effectiveness of guided- and unguided-modeling of conducting behaviors.

Dickey (1988) shows that there was significantly greater ear-to-hand coordination skills and kinesthetic response skills in middle school instrumental ensemble classes that were taught using modeling techniques than those receiving verbal instruction.

**Transference of Visual Feedback**

An investigation of the literature found no references to this aspect of the study. Yarbrough (1987) deals with correction through self-assessment. Woods (1979), Gillespie (1985) and others investigated the use of visual feedback to correct problems in others. Blair (1984), Wilson (1987) and others investigated the effects of teaching style identification and modification through diagnosis. However, there seems to be a lack of research investigating the effects that visual diagnosis of others has on the improvement of the one doing the diagnosis. Because of this void, there is a need for research in this area.
CHAPTER III

METHOD

The purpose of this study was to investigate the effectiveness of the development of visual diagnostic skills as a pedagogical tool in the instruction of basic conducting techniques to beginning conductors. In order to realize the purpose of this study, the following procedural steps were followed: (a) treatment and testing materials were developed and prepared for use by the subjects; (b) subjects for the study were selected and randomly assigned to one of two treatment groups, either lecture and demonstration of conducting techniques or lecture/demonstration with diagnostic opportunities; (c) students were given written and conducting pretests, and exposed to the treatment for a period of five weeks; (d) subjects were given written and conducting posttests; and (e) a panel of experts reviewed the videotapes containing the conducting pretest and posttest performances of all subjects, and rated each subject on his or her demonstration of the basic conducting skills in question.

Development of Materials

Several materials and instruments were developed to assist in this research. These included (a) the Subject Conducting
pretest-posttest, measuring mastery of conducting skills, in which each subject was videotaped while conducting musical excerpts; (b) a written pretest-posttest, measuring mastery of diagnostic skills, which consisted of a videotaped presentation and a multiple-choice answer sheet; and (c) the Videotape Conducting Lesson Series, two sets of instructional videotapes, which served as the treatment, one consisting of lecture/demonstration of the conducting techniques under investigation, the other consisting of an identical lecture/demonstration section, with an additional diagnostic section showing examples of the conducting techniques in question.

**Equipment.**

All videotape recordings for this study were made using a Panasonic AG-160 Camcorder, with a Realistic PZM microphone used as an extension microphone. The videotapes were viewed using a Daewoo DVR-5038N Video Cassette Recorder.

**Master Videotape.**

Since a large part of this research involved subjects viewing videotaped examples of a conducting model giving instructions or performing musical excerpts, a master videotape was developed. The model for all of the videotaped instruction and musical examples was a professional conductor, with more than 15 years of experience in the fields of conducting and conducting pedagogy.

All videotaped examples for the written pretest-posttest and the diagnostic portion of the instructional videotapes were taken from the master videotape, in which the model was recorded while
conducting two original musical excerpts, one in legato style and the other in staccato style (see Appendix A). The model was asked to conduct the excerpts properly five times, and was then asked to alter the performance of the excerpts by changing one of the five areas of investigation so that it became technically improper. The model was videotaped 10 times while altering the first area, then was asked to correct that area and alter another of the areas. This continued until each of the five areas had been altered and recorded. Each of the two excerpts was performed properly at least twice, and each excerpt had each conducting area altered at least 4 times during the videotaping. The master videotape was compiled over two different recording sessions. The 55 videotaped examples collected on the master videotape were then used to develop the pretest-posttest videotapes as well as the diagnostic portion of the instructional videotape.

**Written (Diagnostic) Test.**

Examples from each of the five areas of conducting technique under investigation were randomly placed on a 1/2 inch VHS videotape. Examples used for this test were weighted toward issues that are dealt with from the earliest stages of instruction in the conducting class, posture/baton hold and use of right hand gestures (patterns). Eleven altered posture/baton hold examples were used, along with seven altered right hand gesture-pattern examples, four altered left hand gesture examples, two altered legato gesture examples and one altered staccato gesture example, for a total of 25
altered examples. Along with these altered examples, two proper examples of each musical excerpt were randomly included, making the test 29 examples in length. This videotape was then viewed as part of the written pretest-posttest. Along with this videotape, a multiple-choice answer sheet was developed for the pretest-posttest. The questions coincided with the examples on the videotape. Subjects were asked to choose the conducting area that needed to be improved, or indicate that no improvement was needed (see Appendix B). Subjects were also provided with the musical excerpts that were being conducted by the model in the videotaped examples.

Conducting Test.

The conducting pretest-posttest used two original musical excerpts, one in legato style and the other in staccato style. These excerpts, one in a legato style and the other in a staccato style, were original materials written specifically for this study, and were similar to the excerpts used for the pretest-posttest videotape, although shorter in duration (see Appendix C). Each excerpt used for the conducting pretest-posttest was 8 measures in length, and between 10 and 20 seconds in duration.

A Conducting Skill Evaluation Form was also developed for use by the panel of judges (Appendix D). This form was used to evaluate the conducting pretest-posttest for each subject. The form listed eight separate conducting techniques. For evaluation purposes, the posture and baton hold elements of the treatment were separated. The four other elements of the treatment (patterns, legato style,
staccato style and left hand gestures) were included as individual categories on the evaluation sheet. Also included on the form were two areas not in the treatment portion of the research, tempo indications and facial gestures. These areas were added as indicators of further maturity in conducting ability. Included next to each of the eight categories on the evaluation form was a 10-point Likert scale. The rating "1" was identified as "poor" and the rating "10" was identified as "excellent" for all categories.

**Videotape Conducting Lesson Series.**

The treatment for this research consisted of a series of videotaped lectures on the elements of conducting. Two treatment videotape series were developed. The first treatment involved viewing videotaped instruction and demonstration of the conducting techniques in question. The same conductor used for the pretest-posttest videotape presented three- to five-minute lectures on each of the five conducting techniques under investigation, with short demonstrations of the technique being discussed included during the lecture on each technique. The lecture presentation was taken from a script developed for this study by the researcher (Appendix B). This presentation was videotaped, and separated into five individual videotapes, one for each area under investigation in this study.

The second treatment was identical to the first treatment, with the addition of conducting examples from the master videotape previously mentioned. The lecture and demonstration sections were
followed by examples of improper execution of the conducting technique in question. These examples were drawn from the master videotape. Following each conducting example, the subject viewing the videotape was asked to diagnose the conducting technique in the example and choose what area needed correction (Appendix F). This diagnostic opportunity, in the form of a multiple-choice question, appeared on the videotape after each example. The subject was given approximately 10 seconds to choose an answer. At the end of the 10 second period, another slide appeared on the videotape, this one with the proper answer circled. This treatment was also presented on five separate videotapes, one for each area under investigation.

Design

This experiment was in two distinct sections. The conducting and the written portions of the research were investigated both as separate and related entities during the investigation. The design of the conducting portion of the research was based on the Pretest-Posttest Control Group design (Campbell & Stanley, 1963). Random assignment was made at the time of the pretest. The written portion of the research, also based on the Pretest-Posttest Control Group Design, was designed to be viewed as a separate entity from the conducting portion, as well as to be "nested" in the treatment for all subjects in the conducting portion. The experimental design was:

\[
\begin{align*}
\text{Group A} & \quad R \quad 0 \quad X_1 \quad 0 \\
\text{Group B} & \quad R \quad 0 \quad X_2 \quad 0
\end{align*}
\]
A control group was not employed in this study. However, the treatment that Group A received while viewing the lecture/demonstration tapes was similar to the course content and demonstrations that were employed in the conducting classes during regular class sessions.

A pretest was included in the design of the study even though the subjects were registered for a course designed for beginning conductors. The pretest was included to provide a baseline for measurement of subject improvement directly related to the treatment involved in this study. Use of a posttest-only design would not have been as effective at determining previous experience or physical talent gained prior to the treatment portion of this research. It was determined that the usefulness of the baseline measurement of subjects outweighed any possible effect that the pretest might have on the results.

Subjects

The research for this experiment was conducted on the campus of The Ohio State University in Columbus, Ohio. Thirty-six subjects (N=36) were used in this study, and were drawn from the Music 261.11 -- Basic Conducting classes during Autumn quarter, 1991. The course was taught at two separate times during the quarter, one section meeting at 8:00 a.m. and the other section meeting at 3:00 p.m. The same instructor, who was not the researcher, was responsible for both sections of the class. For this study, 20 members of the 8:00 a.m. class and 16 members of the 3:00 p.m. class participated.
Members of each class were randomly assigned by blind draw to one of the two treatment groups, 10 to each group from the morning class and 8 to each group from the afternoon class, giving each of the groups for this research a total of 18 subjects (n=18). Each subject was informed of the basic procedural guidelines of the research prior to the beginning of the study, but at no time were the goals or intent of the research described to the participants.

Prior to administering the pretests, each subject was asked to complete a short questionnaire (Appendix G). The subjects were asked to identify their year in school, degree program, major instrument (vocalists were asked to answer this question by using the response "voice"), whether or not they had any previous conducting experience, and if they had received any previous formal training in the art of conducting. Nine subjects reported having conducting experience, all as student directors or drum majors of high school ensembles. One subject reported having previous formal instruction, as part of a drum major camp. These experiences were not considered significant enough to be confounding factors to the research, so all subjects were included in the study.

During the course of the research, four subjects dropped the conducting class. Three of these subjects had been assigned to the experimental group and one had been assigned to the control group. In addition, two subjects failed to complete the treatment process, one from the control group and one from the experimental group. This left 30 subjects involved in the research (N=30), 16 in the control group (Group A) and 14 in the experimental group (Group B).
Validity and Reliability

Content validity was established for both the test materials and the treatment videotapes by securing the opinions of a panel of experts. Reliability for the written test was measured by the test-retest method. For further measurement of content validity, as well as construct validity, the written test was administered in a pilot test to music students that had completed the 261.11 conducting course, as well as the follow-up course, Music 262.11 -- Intermediate Conducting, at The Ohio State University.

The content of the materials was judged to be acceptable as presented by the panel of experts. The only aspect of the written test called into question was that of the amount of time between conducting examples on the videotape for the written test. One Judge commented that there was too little time between examples, while another Judge thought that there was too much time between examples. It was deemed appropriate by the researcher to leave the amount of time between examples intact for the study.

The pilot test revealed a range of correct response scores from 17-26. At least one-half of the pilot subjects responded correctly to each item on the test, and no subject responded correctly to all questions. The results of the pilot test were deemed acceptable, and the test materials remained intact for the study.

Procedure

Measurement for this research was conducted in two different areas. Subjects were measured by a conducting pretest-posttest, in
which a panel of experts evaluated levels of mastery of the conducting skills in question, and by a written pretest-posttest, designed to show the ability to visually identify conducting problems as performed by a conducting model.

Written and Conducting Pretests.
All subjects took the written pretest. The pretest was administered during a regular class session on the same day in both sections of the class. The subjects were asked to identify the conducting error shown in each videotaped example using the multiple choice format. A list of four possible conducting errors plus the response "no errors" were provided for each of the examples. The subjects were asked to choose the response that they felt best described the main problem shown in the example (Appendix B).

Each subject was given a copy of the Videotape Conducting Lesson Answer Sheet and a copy of the musical examples from which the model conducted. The answer sheet consisted of an introductory page, containing three explanatory paragraphs and two trial examples responses, and the test packet, which consisted of 29 multiple choice responses, one for each videotaped example shown during the test. The musical excerpt used for each videotape example was identified next to each multiple choice response on the answer sheet.

The subjects were led through the explanatory paragraphs by the researcher, and then shown the two trial examples. After each trial example, the videotape was stopped and the possible responses listed
on the answer sheet were discussed briefly. After the discussion of each trial example, the correct response was identified by the researcher.

After the trial examples had been shown, discussed and identified, the videotape was restarted, and the remainder of the test was completed without interruption.

For the conducting portion of the research, all subjects were videotaped upon completion of the written pretest. The material used for the conducting pretest consisted of musical excerpts that utilized the conducting techniques in question, as previously mentioned. Each subject conducted the excerpts in front of a performing ensemble consisting of the other members of the class.

Treatment Period.

The pedagogical portion of the treatment lasted five weeks. For this portion of the research, two randomly assigned groups were used. The first treatment group (Group A) watched the series of videotaped lessons that contained instruction and demonstration of the conducting techniques in question.

The second treatment group (Group B) was considered the experimental group. Members of Group B watched the videotapes which contained an identical instruction and demonstration portion, and in addition contained a diagnostic portion. As mentioned above, the subjects were asked to diagnose technical conducting errors exhibited by the conductor on the specific conducting techniques, using a multiple choice format for each example.
The videotapes for each treatment group were viewed outside of class time. Each tape was available at the Music Teaching Center located in the School of Music. The Music Teaching Center acts as a resource center for students, and contains an area in which materials may be placed on reserve, out of normal traffic areas, and with access controlled by the staff. Subjects were instructed in the necessity to maintain proper control of the materials used in the treatment. The staff members of the MTC were also informed of the need to keep accurate records during the treatment period. In order to simplify this process, the Videotape Series to be viewed by Group A was identified as such and color-coded in blue, while the Videotape Series to be viewed by Group B was marked as such and color-coded in red.

Each subject was responsible for viewing the tapes on their own time, and completing all necessary viewing assignments in the allotted time. No class time was used to view any portion of the Videotape Conducting Lesson Series. The subjects were permitted to view the videotapes as many times as they wished during the treatment period, and were encouraged to be as comfortable as possible with the material presented on the videotapes.

A log was maintained on each tape, and students were required to sign each tape out and in for each use, and list the date of each viewing. The log for Group A was kept in a blue notebook and the log for Group B was kept in a red notebook, coinciding with the color-code system used for the treatment materials. Periodic checks of the logs were made by the researcher, and students were
encouraged to maintain a regular viewing schedule by both the researcher and the course instructor.

During the treatment period, subjects attended class. The instruction received in class was consistent in both class sections. Since the subjects were receiving instruction during the treatment period, there was an influence on the research being conducted. However, since this instruction was the same for all subjects, and there was no specific instruction in diagnostic skills during regular class sessions, the instruction was not considered a confounding variable in the study.

In addition to class attendance, it was made clear to the subjects that participation in the investigation could be helpful to their grade. Students who did not complete the treatment were not allowed to take the posttests, which were administered during a regular class session. Subjects that did take the posttests had extra credit added to their final participation grade for the class. An additional one percent of the subjects' final grade could be added by completing the treatment and the posttests for this study.

Posttest Evaluation.

After the completion of the treatment period, the subjects were given the written posttest. The posttest consisted of a packet identical to the one used in the pretest and the same videotaped conducting examples. All explanations and discussions used during the pretest were used in the posttest as well.
Upon completion of the written posttest, the subjects were again videotaped for the conducting posttest. The same musical excerpts were employed, and each subject conducted a live ensemble consisting of class members.

The two conducting examples from each subject were placed on another videotape in random order. This videotape of the conducting pretest-posttest for all subjects was shown to a panel of experts, consisting of three professional conductors, each with at least 12 years of professional conducting and teaching experience. The panel was asked to evaluate each subject on the level of mastery of each conducting technique using the Conducting Skill Evaluation Form.

The panelists were given a suitable amount of time to complete their evaluations. When all panelists had completed their observations and evaluations, the rating sheets and tapes were collected and the data submitted to statistical analysis.
CHAPTER IV

PRESENTATION OF THE DATA

The purpose of this study was to investigate the effects of the development of visual diagnostic skills as a pedagogical tool in the instruction of basic conducting techniques. The basic skills under investigation included posture, baton hold, right-hand gestures (patterns), left-hand gestures, staccato gestures and legato gestures. The study used a written test to discern subjects' ability to visually diagnose conducting problems, and a videotaped conducting test to measure subjects' ability to properly conduct musical excerpts.

Data collected and reported in this chapter include the following areas: (a) a statistical check of the randomness of the subject sample as assigned to treatment groups; (b) a statistical comparison of group scores for the written test; (c) a statistical investigation of each item on the written test, by mean group score; (d) interobserver agreement levels for the conducting test; (e) statistical comparisons of Group A and Group B on judges' panel ratings of each subject's demonstration of the conducting techniques in question; and (f) a statistical comparison of Group A and Group B
by each subject's mean overall judges' rating on the conducting
test, using all eight categories, and categories 1-6 only, the items
specifically used in the treatment portion of this study. An a
priori decision was made to investigate both the written and
conducting tests by individual items as well as by overall group
score, to determine what areas of conducting, if any, showed more
significant gains than any other areas in this research setting.

Statistical tests were computed using the SAS statistical
analysis program series for the IBM OS/MVS.

The research hypotheses for this study stated that subjects in
the experimental group (Group B) would score significantly higher on
both the written posttest and on the judges' rating of the
conducting posttest than subjects in Group A. The null hypotheses
therefore stated that there would be no significant difference in
the scores of the two groups on either the written or conducting
posttest. In order to accept or reject the null hypotheses, an
analysis of covariance was computed for both the written and
conducting portions of the research to determine if a significant
difference in either the acquisition of diagnostic skills (as
evidenced by the written test) or the improvement in technical
conducting ability (as evidenced by the conducting test) existed
between the group receiving lecture and demonstration only (Group A)
and the group receiving lecture/demonstration and diagnostic
opportunities (Group B). The total number of subjects used in this
analysis was thirty (N = 30), with sixteen subjects in Treatment
Group A and fourteen subjects in the experimental group (Treatment Group B).

Results for all statistical computations in this research were considered significant at the $p < .05$ level.

**Random Assignment of Subjects**

Even though subjects had been randomly assigned to the treatment groups at the outset of the study, a $t$-test was used to determine if the groups were indeed not significantly different from each other, as shown by scores on the written and conducting pretests. The $t$-test revealed a $t$ value of 1.41 ($df = 28, p < .168$) for the written test, and a $t$ value of .171 ($df = 28, p < .865$) for the conducting test. Neither the written nor the conducting test showed a significant difference between the groups.

**Written Test**

The written test consisted of 29 questions, and was administered twice, as a pretest and as a posttest. The conducting techniques used as examples on the videotape viewed as a part of this test were weighted toward the techniques that are introduced at the start of the conducting curriculum, posture/baton hold and right hand gestures (patterns). Table 1 shows the item number, conducting technique exhibited, and number of correct responses for both the pretest and the posttest for each test item.
Table 1

Written test item, incorrect conducting technique exhibited and number of correct response for pretest and posttest

<table>
<thead>
<tr>
<th>Item</th>
<th>Technique*</th>
<th>Pretest</th>
<th>Posttest</th>
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<tr>
<td>1</td>
<td>RH</td>
<td>16</td>
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<tr>
<td>2</td>
<td>PB</td>
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<tr>
<td>3</td>
<td>LH</td>
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*(PB = posture/baton hold, RH = right hand gestures (patterns), LH = left hand gestures, ST = staccato gestures, LG = legato gestures and NE = no errors)
Pretest scores for all subjects showed a range of 12-26, a mean score of 19.17 correct and a standard deviation of 3.25. The control group (Group A) scores had a range of 14-26, a mean score of 19.94 and a standard deviation of 3.29. The experimental group (Group B) showed a range of 12-22, a mean score of 18.28 and a standard deviation of 3.07.

The posttest results showed an overall range of 13-27, a mean of 20.90 and a standard deviation of 3.29. Group A showed a range of 14-27, a 21.50 mean and a 3.42 standard deviation, while Group B showed a range of 13-24, a mean score of 20.21 and a standard deviation of 3.18. The overall mean improved 1.73 points from pretest to posttest. The control group had a mean improvement of 1.57 points and the experimental group showed a mean improvement of 1.93 points.

A correlation of the written pretest and the written posttest scores within groups resulted in a relatively strong relationship. Using the Pearson Product-Moment Correlation Coefficient, group A showed a .729 correlation (p < .178 N. S.), and Group B showed a somewhat lower correlation of .552 (p < .268 N. S.).

As a further measure of the correlation between pretest and posttest written scores, a t-test of the pretest and posttest scores of both groups was calculated. The t-test revealed a significant improvement from pretest to posttest in both groups. The t-test on the change of scores in Group A showed a t value of 2.50 (df = 15, p < .024), while the t-test for the change of scores in Group B revealed a t value of 2.67 (df = 13, p < .019).
Seventeen items showed more correct responses for the posttest than the pretest. Seven items had the same number of correct responses for both the pretest and posttest, and six items showed lower scores on the posttest than the pretest. Of the seven identical scores (items 4, 8, 12, 17, 27 and 29) all but one item received correct responses from at least two-thirds of the subjects, with items 12 and 27 receiving correct responses from all subjects on both the pretest and posttest. Of the items remaining the same from pretest to posttest, only item 29, with 11 correct responses on both tests, did not have a two-thirds majority of correct responses.

Of the six items with lower correct response levels for the posttest, three items (14, 16 and 18) still had two-thirds correct response rates, even on the posttest. Items 5, 22 and 26 were the only items that declined in correct response rate on the posttest and did not receive a two-thirds correct response rate.

Only one posture/baton hold example, item 26, did not improve in correct response rate from pretest to posttest. Two of the "no error" examples did not improve (items 5 and 11), and neither did the one staccato gesture example (item 4) nor the two legato gestures (items 8 and 16).

It is interesting to note that the four examples of left hand gestures (items 3, 12, 23 and 27) were at opposite ends of the spectrum of correct responses for both the pretest and posttest. Items 3 and 23 had the two lowest correct response rates for the pretest, and were lowest and fifth lowest, respectively, for the posttest, even though both did have improved response rates for the
posttest. Items 12 and 27 had perfect response rates for both the pretest and the posttest.

To further investigate the relationship of the written pretest and the written posttest, an analysis of covariance was performed on the mean group scores for the written test, using the posttest score as the dependent variable, the group as the independent variable and the pretest score as the covariate. Results showed a significance beyond $p < .001$, but the difference was shown to be an effect of the pretest on the posttest score (Table 2). Since the treatment was not the cause of the significant difference in the overall written mean score or on any individual test item, the first null hypothesis was not rejected.

Table 2

<table>
<thead>
<tr>
<th>Posttest $p &lt;$</th>
<th>Group A Effect $p &lt;$</th>
<th>Group B Effect $p &lt;$</th>
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<tr>
<td>.001 *</td>
<td>.165</td>
<td>.001</td>
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</table>

* significant beyond $p < .05$

To investigate the between-group aspects of the written test for each of the areas of conducting under investigation, each of the 29 test items was tested using the one-way analysis of covariance with the posttest score as the dependent variable, the group as the independent variable and the pretest score as the covariate. While items 2, 7, 11 and 28 showed significant differences between pretest
and posttest scores of the groups, the difference in each question was shown by the ANCOVA to be the result of the effects of the pretest on the posttest score. Significance levels for all written test items are shown in Table 3. The levels of pretest effect vs. group assignment effect for test items 2, 7, 11 and 28 are shown in Table 4. It is interesting to note that items 2, 7 and 28 dealt with posture/baton hold issues, and that item 11 did not contain a conducting error.

Table 3

Significance levels for posttest score differences on written test items

<table>
<thead>
<tr>
<th>Item No.</th>
<th>p &lt;</th>
<th>Item No.</th>
<th>p &lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.058</td>
<td>16</td>
<td>.927</td>
</tr>
<tr>
<td>2</td>
<td>.040 *</td>
<td>17</td>
<td>.928</td>
</tr>
<tr>
<td>3</td>
<td>.537</td>
<td>18</td>
<td>.954</td>
</tr>
<tr>
<td>4</td>
<td>.418</td>
<td>19</td>
<td>.433</td>
</tr>
<tr>
<td>5</td>
<td>.221</td>
<td>20</td>
<td>.112</td>
</tr>
<tr>
<td>6</td>
<td>.549</td>
<td>21</td>
<td>.370</td>
</tr>
<tr>
<td>7</td>
<td>.001 *</td>
<td>22</td>
<td>.882</td>
</tr>
<tr>
<td>8</td>
<td>.338</td>
<td>23</td>
<td>.120</td>
</tr>
<tr>
<td>9</td>
<td>.249</td>
<td>24</td>
<td>.563</td>
</tr>
<tr>
<td>10</td>
<td>.100</td>
<td>25</td>
<td>.227</td>
</tr>
<tr>
<td>11</td>
<td>.012 *</td>
<td>26</td>
<td>.157</td>
</tr>
<tr>
<td>12</td>
<td>---</td>
<td>27</td>
<td>---</td>
</tr>
<tr>
<td>13</td>
<td>---</td>
<td>28</td>
<td>.007 *</td>
</tr>
<tr>
<td>14</td>
<td>.372</td>
<td>29</td>
<td>.282</td>
</tr>
<tr>
<td>15</td>
<td>.519</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* significant beyond p < .05

Items 12, 13 and 27 are left blank in Table 3 due to the level of correct response on both the pretest and posttest for these
items. Items 12 and 27 had perfect response rates (30) for both pre- and posttest, and item 13 had 29 correct responses for the pretest and 30 correct responses for the posttest. Therefore, statistical differences were not computed for these items.

Table 4

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Group A Effect p &lt;</th>
<th>Group B Effect p &lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>.120</td>
<td>.141</td>
</tr>
<tr>
<td>7</td>
<td>.900</td>
<td>1.00</td>
</tr>
<tr>
<td>11</td>
<td>.959</td>
<td>.700</td>
</tr>
<tr>
<td>28</td>
<td>.411</td>
<td>.960</td>
</tr>
</tbody>
</table>

Conducting Test

Interobserver agreement.

A panel of three expert judges viewed the videotape of the conducting pretest and posttest for all subjects, and rated each subject in eight separate areas, using the Conducting Skill Evaluation Form. This form separated the conducting techniques under investigation into six categories: posture, baton hold, right-hand gestures, left-hand gestures, staccato gestures, and legato gestures. In addition, two extra categories, tempo indications and facial gestures were included, in order to investigate the effects of the treatment on other conducting skills not presented in the treatment videotapes. These eight items were
listed on the evaluation form, and a 10-point Likert scale was positioned next to each category. The "1" level was identified as "poor" and the "10" level was identified as "excellent" for all categories on the evaluation form. In their evaluations of the subjects, each member of the panel used the "1"-"9" ratings. No judge used the "10" rating for any item or subject.

Interobserver agreement for this study was determined by correlating the results of the judge's ratings of subjects on the pre- and posttest scores for all subjects. Using the Cronbach Coefficient Alpha, the reliability for the pretest scores of the panel was calculated at .684, and the reliability for the posttest was calculated at .667.

The judges' mean score for each subject's pretest and posttest performance on all eight evaluated items was calculated and used in the analysis of covariance for the conducting test. The judges' mean posttest score served as the dependent variable, the group served as the independent variable, and the judges' mean pretest score acted as the covariate. The results showed that only item 6, dealing with subjects' use of left hand gestures, showed a significant difference beyond the p < .05 level. However, as with the items on the written test, the difference was shown to be due to the effect of the pretest, not group assignment. The seven other items did not show any significant difference. Significance levels for each item, as well as levels of group and pretest effects for item 6 are shown in Table 5.
Table 5

Significance levels for posttest score differences on conducting test items and group versus pretest effects for significant item

<table>
<thead>
<tr>
<th>Item No.</th>
<th>p&lt;</th>
<th>Group</th>
<th>Pre</th>
<th>Group</th>
<th>Pre</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.664</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td>.627</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>3</td>
<td>.629</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>.186</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>.219</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>.036*</td>
<td>.121</td>
<td>.034</td>
<td>.100</td>
<td>.034</td>
</tr>
<tr>
<td>7</td>
<td>.299</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>.265</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* significant beyond p < .05

An analysis of covariance for overall mean scores by group resulted in a significance level of p < .298, not a significant difference between scores for the two groups. However, when the data of each group were plotted as points on a graph, and an ANCOVA that investigated the "parallelness" of the resultant lines was employed, the directionality of these lines was shown to be significantly different at the p < .026 level. A graph of the scores by group shows the plotted lines to be non-parallel. In fact, while Treatment Group A followed the normally expected line (low pretest score = low posttest score; high pretest score = high posttest score), Treatment Group B actually showed a decline in posttest score as pretest scores increased. (Figure 1).
Figure 1
Graph of conducting test scores by group.

An investigation of the data using only items 1-6 on the evaluation form, just those items that were a part of the treatment, showed similar results. A graph of the scores by group showed the same directional flow as the eight-item graph, while the level of significance increased somewhat, to $p < .019$.

The results indicate that the treatment becomes less beneficial as pre-existing ability in the use of conducting techniques, as represented by pretest score, increases. The research hypotheses for this study were stated so that Treatment Group B would have to show significantly higher levels of attainment than Treatment Group a showed. Specifically, the second research hypothesis stated that subjects in Group B would show a significantly higher level of improvement in their conducting skills than would be shown by the subjects in Group A. In fact, the inverse was the case. Since the
second research hypothesis could not be accepted, the null hypothesis was not rejected. However, the results showed that the treatment in this study could perhaps be more effective at one level of understanding of these conducting techniques than another, so additional statistical investigation was employed.

To further investigate the effects of the treatment on the experimental group, subjects in Group B were divided into subgroups by categorizing their conducting pretest score into three levels: low, medium and high. The low pretest subgroup (B-1) included 5 subjects, the medium pretest subgroup (B-2) included 7 subjects, and the high pretest subgroup (B-3) included two subjects. Since statistical tests lose power when subgroups this small are involved, the ability to draw conclusive evidence from this portion of the data is extremely limited. However, the effect of the treatment on the posttest scores by subgroup is quite interesting, and is deserving of mention with the rest of the results of this study. Table 6 shows the mean pretest and posttest scores for each subgroup of the experimental group.
Table 6

Mean pretest and posttest scores by experimental subgroup

<table>
<thead>
<tr>
<th>Subgroup</th>
<th>Mean Pre score</th>
<th>Mean Post score</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-1</td>
<td>30.0</td>
<td>48.667</td>
<td>18.667</td>
</tr>
<tr>
<td>B-2</td>
<td>42.714</td>
<td>45.667</td>
<td>2.953</td>
</tr>
<tr>
<td>B-3</td>
<td>52.0</td>
<td>42.833</td>
<td>(-9.667)</td>
</tr>
</tbody>
</table>

The 28.333 range in the change of mean scores from pretest to posttest among the subgroups is notable. The mean change of score in the low pretest subgroup (B-1) indicates an improvement of more than two points per item on the Conducting Skill Evaluation Form. Even though further statistical investigation is not called for due to the small size, the subgroups do suggest areas for further study.

Treatment Tape Use Log

No subjects reported using the treatment tapes more than the required amount. Several subjects chose to view several of the tapes at a single sitting. Because there were no subjects that viewed each of the five tapes in the series more than once, no investigation of the effects of repeated use of the tapes was made.
CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

After their undergraduate years, there is little if any opportunity for musicians to improve their conducting skills in a classroom or laboratory setting. Since there are so few opportunities for being involved with a classroom-based learning situation as a conductor after the college years, there is a apparent need to instruct conducting students in self-assessment skills and the ability to diagnose problems in their own physical technique, as well as the technique of their colleagues in the profession.

This training could give conductors the opportunity to improve in the necessary skills of the profession, while not necessitating a return to a classroom setting for that instruction. It would include instruction in the areas of self-assessment, diagnostic skills, and transference of visual stimuli from self and others into information that will give insight into physical changes that are necessary to improve one’s technical conducting skill. A method
such as this would give students the opportunity for lifelong learning and refinement of the conducting skills that they will utilize throughout their professional careers.

**Purpose of the Study**

The purpose of this study was to investigate the effects of the development of visual diagnostic skills as a pedagogical tool in the instruction of basic conducting techniques. While instruction, demonstration and modeling have long been used as means of teaching conducting skills, there seems to be a lack of evaluation and diagnostic methods used in college level conducting classes.

This research was intended to examine the effects that such methods might have on the instruction of conducting for beginners in the following areas and techniques: posture and baton position, beat patterns, left hand gestures, legato style and staccato style.

**Research Design**

This experiment was in two distinct sections. The conducting and the written portions of the research were investigated both as separate and related entities during the investigation. The design of the conducting portion of the research was based on the Pretest-Posttest Control Group design. Random assignment was made at the time of the pretest. The written portion of the research, also based on the Pretest-Posttest Control Group Design, was designed to be viewed as a separate entity from the conducting portion, as well as to be "nested" in the treatment for all subjects in the conducting portion.
Hypotheses for the Study

The Research Hypotheses.

1. Subjects shown a videotape that gave both instructional and demonstration information as well as diagnostic opportunities would score significantly higher on a diagnostic skills posttest than those subjects shown a purely instructional videotape.

2. Beginning conductors who were shown videotapes of instruction and demonstration of conducting techniques and given opportunities to diagnose conducting problems would show a significantly higher level of improvement in selected conducting skills than subjects that were shown purely instructional/demonstration videotapes.

The Null Hypotheses.

1. There would be no significant difference of scores on a diagnostic skills posttest between those subjects shown a videotape that gives both instructional and demonstration information as well as diagnostic opportunities and those shown a purely instructional videotape.

2. There would be no significant difference in the improvement of selected skills of beginning conductors who were shown videotapes of instruction, demonstration and diagnosis of conducting problems and those that were shown purely instructional/demonstration videotapes.
Methodology

The subjects for the study were conducting students at The Ohio State University in Columbus, Ohio; specifically, those students enrolled in the two sections of the Beginning Conducting course taught during Autumn Quarter, 1991 (N=36). During the course of the research, 4 students dropped the class and two students failed to complete all requirements of the research, leaving thirty subjects involved in the study (N=30).

The following procedures were followed during the course of the experiment:

1. Treatment and testing materials were developed and prepared for use by the subjects, including:
   a. The Subject Conducting pretest-posttest, measuring mastery of conducting skills, in which each subject was videotaped while conducting musical excerpts.
   b. A written pretest-posttest, measuring mastery of diagnostic skills, which consisted of a videotaped presentation and a multiple-choice answer sheet.
   c. The Videotape Conducting Lesson Series, two sets of instructional videotapes, which served as the treatment, one consisting of lecture/demonstration of the conducting techniques under investigation, the other consisting of an identical lecture/demonstration section, with an additional diagnostic section showing examples of the conducting techniques in question.

2. Subjects for the study were selected and randomly assigned to one of two treatment groups, either lecture and demonstration of
conducting techniques or lecture/demonstration with diagnostic opportunities.

3. Students were given written and conducting pretests.

4. Subjects were exposed to the treatment for a period of five weeks. Subjects assigned to Group A watched videotaped lessons and demonstrations of basic conducting techniques, while subjects in Group B watched videotapes that contained identical instruction and demonstration portions, and also included diagnostic opportunities, during which the subjects were asked to identify improper techniques and offer corrective measures for the techniques under investigation.

5. Subjects were given written and conducting posttests.

6. A panel of experts reviewed videotapes containing the conducting pretest and posttest performances of all subjects, and rated each subject on his or her demonstration of the basic conducting skills in question. These ratings were then subjected to statistical analysis.

Results and Discussion

The purpose of this study was to investigate the effectiveness of the development of diagnostic skills as a pedagogical tool in the instruction of basic conducting techniques to beginning conductors. These basic skills included posture, baton hold, right hand gestures (patterns), left hand gestures, legato style and staccato style.

Statistical analysis revealed no significant difference between treatment groups in the ability to diagnose technical conducting
errors as they viewed a videotaped series of conducting examples, and there was no significant difference between the mean score of the groups in conducting ability, as evaluated by a three-member panel of experts. Improvement of mean group score from pretest to posttest was shown for both the written and the conducting tests. The interobserver agreement level for the conducting pretest was .684 and for the posttest was .667. The conducting test improvement was not significant, but a t-test did indicate that the improvement on the written test was significant. An analysis of covariance for individual items on both the written and conducting tests revealed that any significant difference was due to the effects of the pretest for all test items.

As previously mentioned, the mean scores of the groups for the conducting test revealed no significant difference. However, when the scores of all subjects in each group were examined, it was shown that the conducting posttest scores of the experimental group (Group B) actually declined in comparison to their pretest scores, a significant difference from Group A, as shown in Figure 1 (p. 48). This difference led to an investigation of the relationship of conducting pretest and posttest scores for the experimental group by means of subgrouping the pretest scores into low, middle and high ranges. While this technique resulted in groups too small to accurately provide useful statistical data, the mean change in scores from pretest to posttest for the subgroups showed a sizable increase in the low pretest subgroup, while it actually dropped some in the high pretest subgroup.
Explanations for this disparity of scores include the possibility that the experienced or more physically talented students were confused by the presentation, or that these same subjects were forced to think about the conducting process too much, instead of relying on their talent or experience to deal with the technical issues presented.

The written test provided some valuable data, showing which of the conducting techniques under investigation were more easily diagnosed by students at the beginning level. Only one posture/baton hold item showed a decline in correct responses from the pretest to the posttest, while all three staccato/legato style items remained the same or declined in correct recognition. Left hand gestures appeared to be the least predictable of the techniques, with two of the four items at the highest level of recognition and two at the lowest level. Perhaps future studies could focus attention on the slightly more subtle issues of conducting that are represented by the style and left hand gesture items of the test.

While not specifically part of the study, it was interesting to note the effects of the two conducting techniques added to the judges' evaluation of the subjects that were not a part of the treatment. The statistical tests showed significant difference between the directionality of both groups for the conducting test both with and without these items in the data. It can be inferred that these techniques, adherence to tempo indications and use of facial gestures, are a natural part of the maturation process of the
conductor, and special instruction in these areas may not be as vital as some pedagogues believe. Further investigation of this point, and study of what techniques are best taught at what level of understanding, could provide valuable insight into the learning process involved in the art of conducting.

Another possible factor in the results was that of the length of time for the treatment in this study. Due to the Quarter system at The Ohio State University, there was a need to make the study last no more than six weeks, in order to have the same subject pool available for the entire study and to fit the study into the curricular restraints of one quarter. If the treatment had been allowed to last 10 or 12 weeks, with additional diagnostic opportunities available for the experimental group, or perhaps with a lecture on diagnostic skills added to the course curriculum as an additional dimension of the study, the results of the study may have been different.

Conclusions

Based on the results of this study, it can be concluded that instruction in the development of diagnostic skills of beginning conductors does not have more of an effect on the increase of their conducting ability than a curriculum that does not stress diagnostic skills. However, the increase in correct responses in over half of the written test items from pretest to posttest and the notable increase in the low subgroup mean conducting posttest score would suggest that this method of teaching conducting does have some
merit. Many factors involved in the study, particularly the small size of the sample due to the need to limit the study to those enrolled in beginning conducting courses, likely had some effect on the research.

In any event, the instruction of diagnostic skills as a means of teaching conducting does seem to have some value for young conductors, and while the results are not conclusive, instruction of these skills seems to be especially useful at the beginning stages with students that have no previous knowledge of conducting. This is notable, since the literature shows that training in diagnostic skills is a successful means to make teachers more effective in their work. Diagnostic skills are a useful tool for improvement at the professional level, as the literature shows, and are effective at the very beginning stages of learning, but not effective when some skill already exists, as suggested by the findings of this research. At what point does the teaching of these skills become a detriment, and at what point does it again become effective? These are questions that should definitely be considered and investigated in future studies. The benefits of this method of teaching at the very earliest stages of instruction in conducting should definitely be investigated, and perhaps will lead to more research in the use of visual diagnostics to aid in the instruction of physical techniques in any of several related fields.

Possible applications for the treatment used in this study can certainly be drawn from the results. There is an apparent use for the instructional series of the treatment as an aid to those members
of the conducting class that start behind the rest, and have no way of catching up other than to be tutored by the instructor, which is not a feasible solution in many situations. This treatment could be an effective tool in an accelerated advancement plan for the weaker members of the conducting class.

There is a possible use for the written test as a means of ability-grouping larger conducting classes for small group work. By identifying those members of the class that are more adept at diagnosing problems and grouping them with less proficient students, peer teaching can be enhanced and the instructor's time can be used more effectively in a supervisory role.

Recommendations for Further Research

Based on the data and preceding discussion, the following recommendations for further research are offered:

1. Refinement and replication of this study with a larger sample.
2. Refinement and replication of this study with a longer treatment period, perhaps 7-10 weeks instead of the five weeks involved in this study.
3. Replication of this study with an altered treatment for Treatment Group A, one that limits any instruction on conducting techniques, so that this group functions as a true control group.
4. Replication of this study with an investigation of the effects on the subjects who are instrumental majors versus those who are vocal majors.

5. Replication of this study with more diagnostic opportunities added to the experimental group treatment procedure.

6. Refinement and replication of this study in an environment where no class time is spent on lecture, allowing all instruction to come from the treatment videotape series.

7. Replication of this study at more advanced levels of understanding in the conducting sequence; intermediate, advanced and graduate level classes, to investigate the level at which the diagnostic skills might become a useful teaching technique.

8. Expand the content of the study to include other aspects of conducting beyond the five areas of focus in this study.

9. Replication of this study with emphasis placed on items for the written test that exemplify conducting techniques that are introduced later in the curriculum, such as left hand and facial gestures as well as staccato and legato gestures.

10. Revision of this study to investigate the effects of the placement of the diagnostic opportunities within the teaching sessions. This could include a skills identification summary episode before the diagnostic opportunities were presented on each tape.
11. Administration of the written pretest to a group of beginning conductors, giving the treatment only to those subjects that score in the lowest one-third of the pretest scores, to further measure effectiveness at this level of understanding.

12. Adaptation of this study in any of several other fields (e.g. dance, physical education), investigating the effects of visual diagnostic skills development on the acquisition of the physical techniques applicable to those subjects.

13. Investigation and development of an instrument that could measure the effectiveness of visual diagnostic skills instruction in the acquisition of physical techniques in several fields, intending to identify certain aspects of physical movement that could be improved using these techniques in any instructional situation.
REFERENCES


APPENDIX A

CONDUCTING EXCERPTS FOR VIDEOTAPE MODEL
I. Legato = 80
II. Staccato  = 112
APPENDIX B

WRITTEN PRETEST/POSTTEST ANSWER SHEET
NAME __________________________

VIDEO TAPE CONDUCTING LESSON SERIES

AUTUMN QUARTER, 1991

ANSWER SHEET

You will watch a videotape that contains 29 conducting examples. You will be asked to identify the primary technical problem in each example. There may be several problems in any one example, but you should choose the problem that, if remedied, would most improve the conducting shown.

Each example uses one of the two musical excerpts included with this answer sheet. Excerpt 1 is in 3/4 time, legato style and Excerpt 2 is in 4/4, staccato style. While you will not be responsible for performing these excerpts while viewing the conducting, they have been included for your reference. The musical excerpt number has been provided on your answer sheet for each example.

Please circle the letter that best signifies the primary technical problem for each conducting example.

**Trial Example 1** (Excerpt II)

A. Incorrect performance of staccato style
B. Inappropriate/confusing use of left hand gestures
C. Incorrect baton hold/position
D. Incorrect/unrecognizable beat pattern
E. No errors

**Trial Example 2** (Excerpt I)

A. Incorrect/unrecognizable beat pattern
B. Incorrect performance of legato style
C. Incorrect baton hold
D. Inappropriate/confusing use of left hand gestures
E. No errors
Example 1  (II)
A. Incorrect performance of legato gestures
B. Incorrect/unrecognizable beat pattern
C. Incorrect performance of staccato style
D. Incorrect posture
E. No errors

Example 2  (I)
A. Inappropriate/confusing use of left hand gestures
B. Incorrect performance of legato style
C. Incorrect baton hold/position
D. Incorrect/unrecognizable beat pattern
E. No errors

Example 3  (II)
A. Inappropriate/confusing use of left hand gestures
B. Incorrect posture
C. Incorrect performance of staccato style
D. Incorrect/unrecognizable beat pattern
E. No errors

Example 4  (II)
A. Incorrect posture
B. Incorrect performance of staccato style
C. Incorrect/unrecognizable beat pattern
D. Incorrect baton hold/position
E. No errors
Example 5  (I)
A. Incorrect baton hold/position
B. Incorrect posture
C. Incorrect performance of legato style
D. Incorrect/unrecognizable beat pattern
E. No errors

Example 6  (II)
A. Incorrect performance of staccato style
B. Incorrect baton hold/position
C. Incorrect posture
D. Incorrect/unrecognizable beat pattern
E. No errors

Example 7  (II)
A. Incorrect baton hold/position
B. Incorrect/unrecognizable beat pattern
C. Inappropriate/confusing use of left hand gestures
D. Incorrect use/performance of staccato style
E. No errors

Example 8  (I)
A. Incorrect/unrecognizable beat pattern
B. Incorrect baton hold/position
C. Inappropriate/confusing use of left hand gestures
D. Incorrect performance of legato style
E. No errors
Example 9 (II)
A. Incorrect posture
B. Incorrect baton hold/position
C. Incorrect/unrecognizable beat pattern
D. Incorrect performance of staccato style
E. No errors

Example 10 (II)
A. Incorrect posture
B. Incorrect performance of staccato style
C. Incorrect baton hold/position
D. Incorrect/unrecognizable beat pattern
E. No errors

Example 11 (I)
A. Incorrect performance of legato style
B. Incorrect/unrecognizable beat pattern
C. Incorrect baton hold/position
D. Incorrect posture
E. No errors

Example 12 (I)
A. Incorrect/unrecognizable beat pattern
B. Incorrect baton hold/position
C. Inappropriate/confusing use of left hand gestures
D. Incorrect posture
E. No errors
Example 13 (I)
A. Incorrect posture
B. Incorrect/unrecognizable beat pattern
C. Incorrect baton hold/position
D. Incorrect performance of legato style
E. No errors

Example 14 (I)
A. Incorrect baton hold/position
B. Incorrect/unrecognizable beat pattern
C. Incorrect posture
D. Incorrect performance of legato style
E. No errors

Example 15 (I)
A. Incorrect posture
B. Incorrect baton hold/position
C. Incorrect performance of legato style
D. Incorrect/unrecognizable beat pattern
E. No errors

Example 16 (I)
A. Incorrect/unrecognizable beat pattern
B. Incorrect baton hold/position
C. Incorrect performance of legato style
D. Incorrect performance of staccato style
E. No errors
Example 17 (I)
A. Incorrect posture
B. Incorrect baton hold/position
C. Incorrect performance of legato style
D. Incorrect/unrecognizable beat pattern
E. No errors

Example 18 (II)
A. Incorrect/unrecognizable beat pattern
B. Incorrect performance of staccato style
C. Incorrect posture
D. Inappropriate/confusing use of left hand gestures
E. No errors

Example 19 (II)
A. Inappropriate/confusing use of left hand gestures
B. Incorrect baton hold/position
C. Incorrect performance of staccato style
D. Incorrect/unrecognizable beat pattern
E. No errors

Example 20 (II)
A. Incorrect baton hold/position
B. Incorrect performance of staccato style
C. Inappropriate/confusing use of left hand gestures
D. Incorrect posture
E. No errors
Example 21  (II)
A. Incorrect posture
B. Incorrect baton hold/position
C. Incorrect/unrecognizable beat pattern
D. Incorrect performance of staccato style
E. No errors

Example 22  (II)
A. Incorrect performance of staccato style
B. Incorrect/unrecognizable beat pattern
C. Incorrect baton hold/position
D. Incorrect performance of legato style
E. No errors

Example 23  (I)
A. Incorrect performance of legato style
B. Incorrect baton hold/position
C. Inappropriate/confusing use of left hand gestures
D. Incorrect/unrecognizable beat pattern
E. No errors

Example 24  (I)
A. Incorrect performance of legato style
B. Incorrect/unrecognizable beat pattern
C. Incorrect baton hold/position
D. Inappropriate/confusing use of left hand gestures
E. No errors
Example 25 (II)
A. Incorrect performance of staccato style
B. Incorrect/unrecognizable beat pattern
C. Incorrect baton hold/position
D. Incorrect posture
E. No errors

Example 26 (II)
A. Incorrect baton hold/position
B. Incorrect posture
C. Incorrect performance of staccato style
D. Incorrect/unrecognizable beat pattern
E. No errors

Example 27 (II)
A. Incorrect baton hold/position
B. Incorrect performance of staccato style
C. Incorrect posture
D. Inappropriate/confusing use of left hand gestures
E. No errors

Example 28 (I)
A. Incorrect/unrecognizable beat pattern
B. Incorrect baton hold/position
C. Incorrect posture
D. Incorrect performance of legato style
E. No errors
Example 29 (I)

A. Incorrect/unrecognizable beat pattern
B. Incorrect baton hold/position
C. Incorrect performance of legato style
D. Incorrect performance of staccato style
E. No errors
APPENDIX C

CONDUCTING EXCERPTS FOR SUBJECT CONDUCTING TEST
I. Legato = 80 - 88

II. Staccato = 112
APPENDIX D

JUDGE'S EVALUATION FORM
CONDUCTING SKILL EVALUATION FORM

MUSIC 261.11

Subject No. and Description ____________________________

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Judge's Signature ________________________________ Date ______
APPENDIX E

SCRIPTS FOR INSTRUCTIONAL VIDEOTAPE
VIDEOTAPE LESSON I

POSTURE AND BATON GRIP

The way in which a conductor holds his or her body will communicate a great deal to the ensemble. For best effect, the conductor's body should be upright, with shoulders comfortably back, so that they are even with the hips. Do not lean forward from the waist as you address the ensemble. Make sure that the torso is not slouched, and that the ribcage is in a full upward position. (Demonstrate side view of posture, indicating torso and shoulder positions.)

The arms should be placed as comfortably as possible in front of the body, so that the right elbow is placed at approximately the "5 o'clock" position, and the left elbow at the "7 o'clock" position when viewed from behind the conductor. (Demonstrate rear view of elbow placement.) The elbows should be in front of the body, so that their movement will not be restricted by the ribcage. (Demonstrate side view of elbows, indicating position in front of body.)

Both the right and left hands should be held so that the palm faces the floor. There should be no tension in the arms or hands, and the wrist must be able to move freely in this position. The fingers and thumb should be relaxed, as tension here will cause the
wrist and other areas of the arm to become inflexible. (Demonstrate
front view of hands and wrist, showing wrist and finger motion.)

(Pick up baton.) When using a baton, it should be held in the
right hand. The right palm should still be facing the floor, even
when the baton is held. The handle of the baton should be placed in
the palm of the hand so that it rests gently along the middle of the
palm, not too near either the thumb or the fingers. (Demonstrate
placement in hand, palm up.) Wrap the thumb and fingers around the
baton lightly, so that the shaft of the baton is held with the thumb
and index finger.

The shaft should be placed approximately at the first knuckle of
the index finger, and is held in place by the tip of the thumb.
(Demonstrate, palm up, then rotate over so palm is down.) Be sure
that the tip of the thumb is used to hold the baton. If you use the
pad of the thumb, extra pressure is added to the muscles of the upper
and lower arm, causing a lack of fluidity and increased tension in
the wrist and elbow. (Demonstrate proper and improper thumb
placement while saying; "TIP OF THE THUMB, NOT THE PAD.") Proper
thumb position can be checked by noticing the curve in the thumb of
the right hand (Demonstrate curve.)

The baton should act as an extension of the right arm, facing
approximately the same direction as the arm. Hold the baton so that
it is parallel to the floor, and so that a continuous line is formed
along the outside of your arm from your elbow to the tip of the
baton. (Demonstrate baton angle and placement.) The tip of the baton should be approximately in the center of your chest, and should point slightly to the left of center, as the conductor sees it. (Demonstrate tip direction.) Find a comfortable spot to grip the baton so that this basic angle can be maintained throughout your conducting.

The fingers of the right hand should gently wrap around the handle of the baton. The knuckles should form a straight line along the top of the hand. There should be no other objects on the right hand that might detract the attention of the ensemble from the baton. Attempt to keep the fingertips out of sight, and the knuckles from appearing too awkward to the ensemble. (Demonstrate finger and knuckle placement, palm up and down.)
VIDEOTAPE LESSON II

PATTERNS AND RIGHT HAND TECHNIQUES

When conducting an ensemble, the most basic form of communication is shown through the use of beat patterns using the right hand. These patterns have become standard through years of tradition. The patterns can be altered to change the style and meaning of the music being performed. They are the root of the conductor's role in the leadership of an ensemble.

All beat patterns should be shown so that the entire ensemble can see them. This will best be accomplished by keeping the right arm extended in front of the body, so that the elbow is not hindered by the torso. Every pattern that the conductor uses should have a consistent area of coverage.

Each beat consists of three parts; the preparation, the lctus and the rebound. Each portion of the beat must be executed cleanly for the ensemble to be able to interpret the conductor easily.

The preparation of the beat tells the ensemble that the music (or the next beat) is about to begin. Since the preparatory beat tells the ensemble about the next beat, it must show three things; tempo, style and dynamic. If any or all of these elements are missing from the preparation, it becomes useless to the ensemble, and
the need to watch the conductor comes into question. (Demonstrate several styles/speeds of prep and downbeat.)

The ictus is the point at which the beat occurs. Often referred to as the beat point or ictus point, it shows the proper place for the ensemble to place the beat. When most people think of the beat pattern, it is this portion of the beat that comes to mind.

Consistency in the pattern is of great importance. All ictus points should be shown in the same manner. Each ictus point should be shown using a slight downward motion from the wrist at each point. This will allow the ensemble to read each beat clearly. The wrist flick is a quick motion which moves the hand and tip of the baton only slightly, but still clearly enough to be observed. (Demonstrate wrist flick with and without baton.)

The rebound of each beat cannot interfere with the ictus point. The rebound should not be more than half the height of the previous beat. Generally, the rebound leaves the ictus point in the direction opposite from the next beat to be shown. So, if the beat just performed is downward, and the next beat is to be shown to the conductor's right, the rebound will go to the left slightly as it leaves the ictus point. (Demonstrate ictus and rebound direction.)

The rebound also serves as the preparation for the successive beat in continuing patterns, so it must be in the style of the beat that follows it. If too much emphasis is placed on the rebound of any beat, the pattern will look disjointed and awkward. Even in the
shortest beat patterns, the rebound should flow with as little effort as possible to the next beat, so that it does not interrupt the musical line shown by the rest of the beat pattern.

When conducting in a three-beat pattern, the primary beat of each bar, the first beat, should be executed using a downward motion near the center of the body, with the ictus placed somewhere between the sternum and the waist. The second beat is placed to the conductor’s right, with the ictus point placed on the same horizontal plane as the downbeat. The third beat of the bar returns to the center of the conductor’s body, but is placed slightly above the ictus level of the previous two beats. (Demonstrate pattern, explaining each beat placement as you arrive.)

The four-beat pattern is similar to the three-beat pattern, with the addition of a beat to the conductor’s left. The first beat of the bar is still downward in the middle of the body, with the ictus point comfortably in the middle of the torso. Beat two travels to the conductor’s left, across the body, with the ictus point at the same level as beat one. Beat three is placed to the conductor’s right, back across the center of the pattern, at the same level as the previous beats. Be sure that beat three is placed as far away from center as beat two was placed, no closer and no further. Symmetry in the pattern is important for clarity as the ensemble looks up from their music for visual references. Beat four is placed back at the center of the pattern, again with the ictus placed slightly above the horizontal plane defined by the other beats.
(Demonstrate 4 pattern, explaining placement of each beat as it arrives.)
VIDEOTAPE LESSON III

LEGATO GESTURES

Once the beat pattern has been firmly established, the conductor can begin to experiment with slight changes in the basic gestures, giving new shape and meaning to the musical lines and phrases. One of the primary ways in which the conductor can alter the beat pattern is by using continuous and rounded motion, pulling in between the beats. This is called for in "legato" music, where the phrases are more connected than other musical styles.

To show connection in conducting gesture, the changes of direction are smoothed out, making all gestures less drastic. To this end, the beat pattern will remain the same shape, but the ictus points and rebounds will be less separated from each other.

When performing legato gestures within the conducting pattern, the wrist should become more flexible, bending more as it moves through the pattern. The tip of the baton will tend to follow the wrist through the motions, instead of leading or moving concurrently. (Demonstrate "wristy" legato, emphasizing "wrist first" motion.)

Remember, the basic pattern does not change. Each beat is still placed in the same place, and the horizontal plane defined by the beats should be maintained. The ictus point of each beat is still
shown by a downward motion in the wrist. The hand should still give
a downward motion at each beat point, but a slower, less "flicked"
motion is called for. In addition, the rebound away from each beat
is smoother, and should be rounded as it moves to the next beat.
(Demonstrate smoother ictus, rounded rebound in three- and four-beat
patterns.)

To assist in the learning of this gesture, think of the tip
staying longer at each ictus point in a legato style beat pattern.
Since it spends more time at the ictus point, it will follow the
wrist to the next beat point, and will leave the ictus point smoothly
as it travels within the pattern.
STACCATO GESTURES

Staccato gestures are used when the music is short and disconnected. Altering the beat pattern by shortening the motions used will assist the ensemble in performance of music in this style.

Separation of the beats can be obtained in several ways. The two most frequently used methods of showing a staccato style are shortening and controlling the freedom of the rebound, and the locking of the wrist. The first method allows the wrist flick at each ictus point to continue, but interrupts the rebound immediately after the ictus point. The tip of the baton moves quickly from the point of interruption to the next ictus point, causing the visual separation of the beats. (Demonstrate "short wrist staccato" method in three- and four-beat patterns.)

The other method of separation of beats is the method which negates the use of the wrist in the conducting motion. This is especially useful for heavier separated styles, such as marcato. By locking the wrist, the forearm, with its larger recoil muscles, is the primary force used in the beat pattern, so the rebound from each ictus point is quicker, and there is a point at the "top" of the rebound where no motion in the baton is apparent. (Demonstrate "locked wrist staccato" in three- and four-beat patterns.)
Notice that even in each of these styles, the motion at each ictus point is still downward, giving a consistency to the beat pattern. Do not let the ictus points on the outside of the pattern change direction in this, or any other, style. (Demonstrate downward ictus point, emphasizing each beat.)

Throughout each of the methods of staccato conducting style, the right arm should still move consistently. The tip of the baton and the wrist will create the stop in the motion, but the forearm and upper arm motion should continue in a fluid, consistent manner.
VIDEOTAPE LESSON V

LEFT HAND GESTURES

In addition to altering the beat pattern to show differences in the music, the conductor may also show interpretive gestures using the left hand. These gestures are meant to enhance the information given with the beat pattern, and in many instances are the gestures ensembles will begin to rely on as they become comfortable watching the conductor.

Since there is no beat pattern to follow, the left hand is much more free to give information that the conductor wishes the ensemble to know. The left hand is used for entrances, releases, sustaining gestures, crescendo and decrescendo gestures, informational gestures such as who has the important lines and where connective points in the music happen, and gestures that let the ensemble know how the performance is proceeding. As the conductor becomes more aware of the many uses of the left hand, he or she will add a series of unique, personal gestures to their powers of communication through the left hand.

Unlike the other aspects of this videotape lesson series, there is little or no exactness to the use of the left hand in conducting gestures. There are no patterns to left hand gestures, and while
there are many traditional gestures, there is no universally accepted
list of basic or necessary left hand gestures. That is not to say,
however, that anything goes. There are a few basic guidelines that
must be kept in mind as the conductor practices left hand gestures.

In any gesture performed with the left hand, a free, easy motion
must be maintained, with natural resistance in the gesture. If the
left hand is to help with the musical flow of a piece, it must flow
as the music does. Gestures that are too quick, or that have no
resistance to them will look weak or out of place in the musical
setting. In general, the left hand moves in the same manner as the
right hand, but without the pattern to restrict the direction of
movement.

When using the left hand, be aware of the placement of the palm
of the hand. If the palm is shown regularly, the ensemble will
likely interpret this as a "get softer" message, even if that is not
the intent of your gesture. To guard against this, make sure that
the wrist is relaxed, and angled slightly downward. This will
prevent the palm from creeping into regular use. (Demonstrate palm
placement, rotating wrist up and down.)

Generally speaking, the further away from the center of your
body the left hand goes, the bigger the response from the ensemble.
Crescendo gestures are evidence of this, because as the hand goes up,
over the shoulder and on to eye level, the ensemble will respond by a
gradual increase of volume. The reverse is also true. As the hand
returns, in a controlled manner, toward the middle of the conductor's body, the ensemble will decrease the volume. This can also be true of gestures straight out to the side of the conductor. (Demonstrate crescendo moves up and to side, then crescendo and decrescendo moves.)

On all gestures of entrance and release, remember that these gestures must be prepared, just as the beat must be prepared. For cueing purposes, the left hand should be in a ready position several counts before the gesture is to be executed. On the beat before the cue, move in the opposite direction of the cue. On the cued beat, move in the direction of the player to be cued, or in another musically acceptable direction. (Demonstrate cue.) The same series of events happens for a release gesture. (Demonstrate release gesture.) Remember that it is impolite to point, even when giving a cue. Try several different hand postures until you find one that is comfortable to both you and the ensemble. (Demonstrate a few hand postures for cues.)

For gestures of information, the left hand must show the style that the conductor wishes the ensemble to perform. Practice moving the left hand in a legato manner, and staccato manner, as well as the countless other styles of music to be performed. These motions must be independent of the right hand, so a great deal of thought and practice must go into the simultaneous but separate motions of the two arms.
Gestures of the left hand will be most effective when used sparingly, so avoid overuse. Mirroring the beat pattern with the left hand only makes the ensemble ignore its presence, and any different gestures from the left hand will have to be overdone to even be recognized as different. (Demonstrate mirroring, first big, then small.) Find a comfortable place for the left hand to rest, near the center of the body but not in the way. This will make the use of the left hand accessible and yet not obtrusive to the viewer.
APPENDIX F

EXAMPLE SLIDE FOR DIAGNOSTIC INSTRUCTION
Example 3

A. Rounded motion should be evident in legato pattern

B. Palm should consistently face the floor

C. Wrist must be flexible in a legato pattern

D. Horizontal plane must be maintained
APPENDIX G

SUBJECT INFORMATION SHEET
INFORMATION SHEET

VIDEOTAPE CONDUCTING LESSON SERIES

AUTUMN QUARTER, 1991

Name ______________________________ Year __________

Degree Program _______________________________________________________

Major Instrument _______________________________________________________

Campus Phone Number __________

Previous Conducting Experience (please check one) Yes ___ No ___

If yes, please describe experience below:

Have you had any formal instruction in the art of conducting prior to this quarter?

Yes ______ No ______

If yes, please describe instruction below:
APPENDIX H

DESCRIPTIVE SUBJECT DATA, SUBJECT’S WRITTEN PRETEST/POSTTEST
SCORES AND JUDGE’S SCORES OF SUBJECTS PERFORMANCE ON
PRETEST/POSTTEST CONDUCTING SKILLS
Table 7

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Table 10

Mean Overall Judges’ Scores for Subject Performance on Posttest of Conducting Skills

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