



2009

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Virtual Commons Citation

Running, Donald J. (2009). Effects of an interdisciplinary method for training conductors. In *Music Faculty Publications*. Paper 4.
Available at: http://vc.bridgew.edu/music_fac/4

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Effects of an Interdisciplinary Method for Training Conductors

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March 14, 2008

ABSTRACT

This study investigated effects of a method designed to enhance novice conductors' musical expressiveness, specificity, and comfort through incorporation of acting exercises. Participants ($N = 33$) were divided into an experimental group receiving instruction in physical acting exercises and a control group receiving traditional conducting instruction. Pretest/posttest questionnaires and pretest/posttest video excerpts assessed by a panel of experts were employed to assess changes in participants' abilities and attitudes. Results indicate that both the experimental method and traditional method have positive effects on the ability of the conductors to utilize and perform expressive conducting gestures ($p < .01$). No significant interactions were found between the control and experimental groups; both experimental and traditional methods seemed to allow for student growth equally.

Effects of an Interdisciplinary Method for Training Conductors (APA Format)

Several music educators have stated concerns regarding a lack of emphasis on expressiveness and creativity in college conducting curricula (Baker, 1992; Deal et al., 1985; Zirkman, 1984). Thus, there is a need for research regarding methods intended to increase the expressive abilities of novice conductors. The present study focused on using an interdisciplinary method for enhancing the physical abilities of novice conductors. In this case, exercises used to train actors in expressive movement were used to supplement traditional conductor instruction.

Interdisciplinary learning has become more prevalent in higher education (Anderson, 2003). Ellis and Fouts (2001) cited several benefits to interdisciplinary studies including enhancing higher-learning processes, making learning more connected across different disciplines, simulating ‘real-world’ situations, enhancing content mastery, helping shape a student’s attitude towards learning, and motivating students to learn. Other researchers have arrived at similar conclusions. Wineburg and Grossman (2000) reported that “... interdisciplinary curricula allow students to see patterns in chaos, transcend surface details, and see ‘the big picture’ that so often eludes us as moderns (p.2).” Brabant and Hochman (2004) observed a rapid and substantial change of student perspective on multiple levels (including perspectives relating to their own discipline), greater understanding of theoretical issues, and a greater appreciation for other disciplines. Interdisciplinary learning is the foundation of several modern learning theories including arts PROPEL (Aaron, 1994), constructivist theory (Post et al, 1997) and Integrated Thematic Instruction (Randle, 1998). Professors incorporating interdisciplinarity into higher education have demonstrated the ability to create unique and

powerful opportunities for students (Anderson, 2003; Brabant and Hochman, 2004; Ellis and Fouts, 2001; Wineburg and Grossman, 2000; Young, 2003).

The present study was inspired by various interdisciplinary explorations regarding expressive conductor training – particularly relating physical acting exercises to conducting. Through a broad examination of theatre in different cultures, Barba and Savarese's (1991) concluded that it is in the physical body – not text, costume, or set – that the theatre's ability to cross cultural boundaries lies. The study of the body as a means of theatrical expression has an extensive history. An emphasis on developing body movement in actor training can be traced back to ancient Greece (O'Brien, 1990). The exploration of dramatic physical expression was revisited through multiple theories pertaining to expressive movement coinciding with the 17th century Scientific Revolution and Delsarte's mid-19th century theories related to emotional expression (Hoff, 1990). Delsarte influenced Dalcroze's and Laban's movement theories which were established during the late 19th and early 20th century to provide actors with an understanding of not only how the body moves, but also why it moves in an expressive and communicative sense (Schreiber, 1980).

In the early to mid-20th century, several theatre pedagogues began expanding traditional interpretations of expressive physical movement in order to better train actors. Stanislavski developed a system of training actors (commonly known as 'the Method') to better train actors. Stanislavski's student Meyerhold created a new system of 'biomechanics' while training actors in various Russian theatres (Kubik, 2002; Meyerhold, 1976). Grotowski (2002) produced a series of exercises to train actors' physicality and vocal production. Etienne Decroux (1987) created a method to enhance and fulfill the expressive physical potential of actors through technical physical exercises. More recent methods for teaching physical movement to actors

include the Williamson Technique (Williamson, 2002) and the Margolis Method (Margolis, 2006). Actor training exercises within the present study were specifically taken from the Margolis Method and modified for application to conducting.

The present study is not the first to combine interdisciplinary learning and conductor training. Bartee (1977) observed that while conductors acknowledged the necessity of expressive movement, few were capable of detailing the origin of these expressive movements. Bartee then developed a model for explaining the act of conducting and how Laban Movement Analysis (LMA) would augment traditional conducting instruction. Poch (1982) employed LMA with her conducting students and found that these students quickly learned to analyze their own movements; enabling them to become both more confident in their gestures and find greater benefit to constructive comments regarding their conducting gestures. Miller (1988) found that LMA was significantly more effective than traditional methods of conductor training in improving conductor gestural expressiveness and Benge (1996) found it to be a useful means to describe expressive conductor movement. Yontz (2001) discovered that novice conductors trained in LMA were significantly superior at communicating artistic musical intentions than novice conductors trained in the use of traditional expressive gestures. Neidlinger (2003) suggests that Laban training has a positive impact for a group's level of comfort while conducting.

Other researchers (Chagnon, 2001; Hibbard, 1994; McCoy, 1986; Wis, 1993) have explored utilizing group movement to assist in communication between conductor and musical ensemble. In these studies, ensemble movement was used to enhance the comprehension of musical structure, encourage proper vocal technique, and to sensitize participants to conducting gesture (Chagnon, 2001). Wis (1993) found movement activities to be more efficient than words

in communicating indefinable musical qualities. Students engaged in the movement activities cited benefits to their memorization, vocal technique, and musical phrasing (Chagnon, 2001).

Similar to the present study, there have been other explorations regarding interdisciplinary associations between actor training and conductor training. Paul and Schenbeck (1980) reported details of how their conducting courses were enhanced by employing several of Spolin's (1963) actor training lessons. Spolin developed an extensive series of 'theatre games' to train actors to feel free, creative, and confident while on stage. Paul and Schenbeck (1980) discovered that the same positive benefits found in Spolin's actors could be observed in novice conductors, specifically noting a decrease in self-consciousness, an increase of concentration, a greater sense of orientation between the conductor and ensemble, and improved communication skills. Maiello (1996) compared an actor's use of vocal quality to a conductor's use of expressive gesture; suggesting that both the actor and the conductor affect an audience/ensemble through variations of vocal or physical intensity.

Baker (1992) created exercises that emphasized perceived similarities between conducting and mime such as quickly focusing the eyes on multiple locations, improvised facial and body gestures, and face/body brushing (akin to trying on different 'masks' of demeanor). Tait (1985) worked with masks and mime exercises to assist the development of creative and expressive conductors, finding these exercises helpful in enabling conductors to project the artists' inner creative self to both ensembles and audiences. Mime and acting exercises can also be found in Porter's (2000) conducting curriculum for "non-conductors" which strongly emphasizes non-verbal communicative skills. Porter compared participants enrolled in her conducting curriculum with students enrolled in a traditional conducting course and found the

non-conductor group fully capable of obtaining the conducting skills demonstrated by students receiving traditional training.

In light of the present study, the most relevant prior research was done by Orzolek (1996) who introduced theatre techniques and imaging exercises to undergraduate conducting students ($n = 42$). Orzolek designed several imagination-based miming exercises to increase the expressiveness and flexibility of novice conductors. For eight weeks, within each conducting class, an experimental group ($n = 27$) received five to ten minutes of instruction with imagery and movement exercises. While Orzolek's findings did not reveal any statistical significance, he did report a consistent trend of improvement in the experimental participants' facial, torso, hand, arm, and overall expressiveness when compared to the control group. Orzolek concluded that participants in the experimental group found the exercises to be personally beneficial in their development as expressive conductors.

It is clear that researchers are finding interest in the combination of movement-based disciplines with conductor training. Yet statistically significant benefits seem few and far between. There are several possible reasons for the lack of statistically significant results. For example the duration of the studies are not long enough, interdisciplinary connections between the exercises and conducting are not fully integrated by the students, and an efficient method for determining the expressive abilities of conductors remains lacking. The present study attempted to facilitate at least one of the previous problems; that of truly connecting the exercises to real-life conducting.

METHOD

Participants

Participants in this study ($N = 33$) were members of two sections of beginning conducting classes taught at a large Midwestern university. The two groups were labeled as the experimental group ($n = 16$) and control group ($n = 17$). This course was a requirement of all music performance majors and music education majors and included a mix of vocalists and instrumentalists. All the members were pursuing undergraduate degrees in music and were typically in their second year of musical higher education training. The research model employed a non-randomized (quasi-experimental) control group pretest-posttest design. This method allowed for exploration of the practical efficiency of teaching methods used with an undergraduate beginning conducting class. Only students who had completed the pretest/posttest questionnaires and the pretest/posttest videotaping were eligible for inclusion into the data analysis. Of the total 33 participants, 30 were randomly selected to be videotaped (experimental = 14, control = 16) for evaluation of conducting skills.

Data Gathering

Over a two week period, each group received two 50-minute sessions of conducting instruction and two 15-minute sessions of conducting instruction. Within this framework, the experimental group received training in several acting-based exercises developed in conjunction with two university faculty members with extensive experience in conductor training and actor training. The overarching themes of the four class periods were ‘Connecting breath to gesture,’ ‘Leading groups using connected gesture,’ ‘Connecting legs to gesture,’ and ‘Emotion as an extension of breath and gesture.’ The control group did not receive any of the experimental treatments but underwent the customary conducting class curriculum featuring an emphasis on baton technique and beat pattern subdivisions.

Research questions for the present study can be organized into two overarching categories. The first category was based upon student reactions and attitudes concerning the experimental procedures. This data was collected through a pretest questionnaire administered to both groups prior to the treatment period and a posttest questionnaire administered following the treatment period. The second category was based upon the evaluation of video recorded student performances by a panel of expert instructors of undergraduate conducting. Prior to the treatment period, all participants were videotaped conducting other members of the class through a section of Gustav Holst's "Intermezzo" from the *First Suite in Eb*. This musical selection served as the pretest conducting excerpt. Following the treatment period, all participants were videotaped conducting an excerpt from the first movement of Joseph Haydn's *Symphony No. 104* which served as the posttest conducting excerpt.

All conducting performances were dubbed onto three separate master DVDs containing both pretest taping and posttest tapings in random order. A panel of three experienced instructors of undergraduate conducting evaluated the expressiveness, specificity, and comfort level of each of the performances. These scores were recorded on a tally sheet and used to determine whether or not the experimental procedure had significant effects on the development of basic conducting skills. Three practice conducting examples were provided prior to the actual rated conducting performance to allow the adjudicators an opportunity to acclimate themselves to the evaluation tool. The panel was not aware of the pretest or posttest, experimental or control status of the performances.

Data Analysis

Student reactions to the experimental process were evaluated using responses given to the pretest-posttest questionnaire analyzed through one-way, between-groups, repeated measures Analyses of Variance (ANOVAs). The scores supplied by the expert conducting instructors underwent identical statistical analyses. The independent variable for each item was the participants' group (control vs. experimental) and the dependant variables consisted of posttest scores on the survey items and expert evaluations administered after the workshops were completed. The .05 level of significance was adopted as the alpha level for all tests.

RESULTS

Results of the Participant Questionnaires

Over the course of the treatment period neither group of participants experienced a change in their comfort level about conducting [$F(2,28)=3.84, p=.06$, partial eta squared = .11]. There were also no significant differences found between the two groups [$F(2,28)=1.87, p=.18$, partial eta squared = .06]. In the case of participants' ability to perform conducting gestures, both groups displayed significant gains following the treatment period [$F(2,28)=29.83, p<.01$, partial eta squared = .49]. However there were also no significant differences found between the two groups [$F(2,28)=.59, p=.45$, partial eta squared = .02]. Similarly, both group of participants experienced a positive change in their knowledge of beat patterns over the course of the treatment period [$F(2,28)=44.60, p<.01$, partial eta squared = .59]. Again however there were no significant differences found between the two groups [$F(2,28)=.14, p=.71$, partial eta squared = .01]. Means scores for the survey items "Comfort About Conducting," "Ability to Perform Conducting Gestures," and "Knowledge of Beat Patterns" can be found in Tables 1, 2, and 3 respectfully.

Results of the Expert Evaluation

Neither group of participants demonstrated changes in their perceived comfort while conducting [$F(2,28)=.69, p=.41$, partial eta squared = .02] and no significant differences were found between the two groups [$F(2,28)=1.07, p=.31$, partial eta squared = .04]. Likewise, there were no differences found in participants' perceived conducting specificity [$F(2,28)=.33, p=.57$, partial eta squared = .01] and no significant differences found between the two groups [$F(2,28)=.59, p=.45$, partial eta squared = .02]. Means scores for the evaluation items "Perceived Level of Comfort" and "Perceived Level of Specificity" can be found in Table 4 and 5 respectfully.

Different results were found for the evaluation items "Perceived Connection of Breath to Gesture" and "Perceived Level of Expressivity." Significant differences were found in both groups perceived connection of their conducting gestures to the way they use their breath [$F(2,28)=7.44, p=.01$, partial eta squared = .21] yet no differences were found however between the two groups [$F(2,28)=.00, p=.97$, partial eta squared = .00]. Lastly, a significant difference was found in the participants' level of conducting expressivity [$F(2,28)=8.93, p<.01$, partial eta squared = .24]. Again, there were no differences found between the two groups [$F(2,28)=.17, p=.68$, partial eta squared = .01]. Mean scores for the evaluation items "Perceived Connection of Breath to Gesture" and "Perceived Level of Expression" can be found in Table 6 and 7 respectfully.

Table 1
Mean Scores for Comfort About Conducting

Test	<i>N</i>	<i>M</i>	<i>SD</i>
Control Pretest	17	3.54	1.33
Control Posttest	17	4.56	1.61
Experimental Pretest	16	4.42	1.22

Experimental Posttest	16	4.60	1.29
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Table 2
*Mean Scores for Ability to Perform
Conducting Gesture*

Test	<i>N</i>	<i>M</i>	<i>SD</i>
Control Pretest	17	3.34	.94
Control Posttest	17	4.88	1.03
Experimental Pretest	16	4.14	1.32
Experimental Posttest	16	4.63	1.24

Table 3
Mean Scores for Knowledge of Beat Patterns

Test	<i>N</i>	<i>M</i>	<i>SD</i>
Control Pretest	17	4.22	.91
Control Posttest	17	5.54	.84
Experimental Pretest	16	4.18	1.50
Experimental Posttest	16	5.34	.93

Table 4
Mean Scores for Perceived Level of Comfort

Test	<i>N</i>	<i>M</i>	<i>SD</i>
Control Pretest	16	4.51	1.37
Control Posttest	16	4.60	1.55
Experimental Pretest	14	4.13	1.29
Experimental Posttest	14	4.33	1.41

Table 5
Mean Scores for Perceived Specificity

Test	<i>N</i>	<i>M</i>	<i>SD</i>
Control Pretest	16	4.33	1.71
Control Posttest	16	4.38	1.51
Experimental Pretest	14	4.00	1.49
Experimental Posttest	14	4.22	1.46

Table 6
*Mean Scores for Perceived Connection of
Breath to Gesture*

Test	<i>N</i>	<i>M</i>	<i>SD</i>
Control Pretest	16	3.42	1.33
Control Posttest	16	3.58	1.39
Experimental Pretest	14	3.16	1.25
Experimental Posttest	14	3.82	1.50

Table 7
Mean Scores for Perceived Expressivity

Test	<i>N</i>	<i>M</i>	<i>SD</i>
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Test	<i>N</i>	<i>M</i>	<i>SD</i>
Control Pretest	16	4.07	1.57
Control Posttest	16	4.69	1.43
Experimental Pretest	14	3.96	1.62
Experimental Posttest	14	4.56	1.47

DISCUSSION

Across the participant survey items, no significant differences were found between groups. It appears that both the control and the experimental groups achieved similar results: both methods reported statistically equivalent improvement of conductor ability and beat pattern knowledge. This improvement occurs whether their conducting training is reinforced by incorporation of physical acting exercises or additional emphasis on traditional conducting pedagogy. It is equally important to note that the treatment did not hinder the experimental group in their confidence in leading an ensemble.

The remaining research questions for the present study relate to the perceptions of expert instructors of novice conductors. Among both groups, improvement was found for each item and statistically significant improvement was revealed in relation to two measures: perceived expressivity and connection of breath to gesture. However, like the questions related to student perception, no significant differences were found between the experimental and control groups. The evaluators' responses indicate that, when incorporated into a traditional conducting curriculum, both methods (instruction in baton technique/subdivision and instruction in acting exercises) similarly improve development of physical conducting skills.

The findings of the present study are particularly valuable when examined in relation to prior research regarding the interdisciplinary conjunction between theatre exercises and conductor training; particularly the research of Orzolek (1996). Both Orzolek and the present researcher employed a pretest/posttest format, drawing conclusions from both student self-

evaluation reports and the evaluations of expert instructors of conducting. However, two important aspects differentiate the two studies. One distinguishing factor is the nature of the theatre exercises employed. Orzolek's study was primarily based upon volunteers' solo explorations of physical gesture and imagery with some partner exercises while the present study began with solo exploration but then quickly shifted emphasis to partner and group work. Another distinguishing factor between the studies was the manner in which instruction time was utilized. Although each study allowed for the same amount of instruction time (130-140 minutes), Orzolek dispersed 24 short lessons over a two month period. This is in sharp contrast to the use of an intensive approach to the integration of acting techniques over four classes within a two week period exemplified in the present study.

Despite these differences, several commonalities can be found. Both the present researcher and Orzolek (1996) found that incorporation of exercises aimed at developing novice conductors' gestural expressiveness will result in the ability of the student to conduct more expressively; at the same level as students in more traditional conducting classes. Also, it was determined that the acquisition of rudimentary conducting skills was not affected by the incorporation of these theatre exercises. Two important factors differentiate the two studies in respect to their findings, however. Orzolek found improvements in the acquisition of basic skills and in student perception of the importance of the theatre exercises that the present study did not. On the basis of the results of these two studies, it appears that a better means of incorporating the theatre exercises would be in smaller doses over an extended period of time. Given a choice between investing instruction time into a few intensive workshops or several short acting exercises over the course of a semester, the latter seems to produce better results.

An ability to communicate musical ideas kinesthetically is an important characteristic of a conductor (Benge, 1996; Byo, 1988; Byo and Austin, 1994; Cofer, 1998; Gallops, 2005; Grechesky, 1985; House, 1994; Laib, 1993; McClung, 1996; Sidoti, 1990; VanWeelden, 2002) and additional research is needed to develop practical methods for increasing the physical expressivity of novice conductors. Through exercises originally developed to train actors in expressive physical movement, novice conductors may find a bridge for transposing musical ideas into physical manifestations. Results of the present experiment point to different venues for further research in this interdisciplinary study. For instance exercises presented in this study should be implemented for shorter periods within the course, but extend training to an entire semester or year. By using these (and other physical acting exercises) for a full year, conducting instructors would be likely to see significant improvement in expressive and specific abilities as well as conductor comfort. A study to determine the effect of this extended time period would be beneficial to conducting pedagogy. Perhaps the most valuable avenue for further research is how best to integrate fundamental technical conducting skills with expressive conducting skills. Is it more beneficial for a class to study expressive movement first and then acquire basic skills, to acquire a basic foundation first and then learn to be expressive, or should both be learned simultaneously?

Determining the efficacy of each of the acting exercises will be of great value to the profession. By ascertaining which exercises are most useful and assimilated more quickly, a conducting teacher could use the exercises in partnership with material already being taught in class. This could allow an interested instructor to develop a class structure that is most appropriate to his/her particular situation. In addition, new exercises promoting conducting expressivity should be created and explored. Development of new exercises would offer an

important variety to conducting instructors allowing interested instructors to determine which exercises best suit a specific conducting concept while remaining within their personal teaching comfort level and philosophy of conductor instruction. It will also be valuable to take a longitudinal approach to evaluating the efficacy of this method of conductor training following several years of the participants' teaching and/or conducting.

The present study was conceived to explore effects of an interdisciplinary method for training novice conductors; a method designed in collaboration with experts in the fields of music and theatre. For those interested in using theatre exercises as an addition to their traditional methods of teaching conducting, the results indicate that such training will not hinder the acquisition of basic conducting skills. The skills and attitudes of the participants in the experimental group did not lag behind their colleagues in the control group, despite receiving a very different approach to instruction in conducting and physical communication. Further refinement of this and other methods related to the use of movement-based disciplines in conducting instruction will lead to a proper balance of instruction in technique and expression.

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