



Sensory Conducting

A Proposed Method of Designing Conducting Pedagogy

ABSTRACT

This paper approaches the art of conducting from a sensory point of view and provides substantiated claims about the best practices in conducting pedagogy.

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Introduction

There is a moment of silence—a sacred pause—before a conductor raises their hands to invite the ensemble’s initiation of sound. In this moment, the musicians are mentally preparing a sound on their own individual instruments, maybe placing their fingers on the correct keys, looking down at their bows perched upon the correct strings, or perhaps imagining the first pitch in their mind’s ear before breathing together. For a conductor, this is the moment when they are preparing to receive musical feedback. A performer’s role is to create the sounds written on the page, but a conductor must the create music.

A conductor takes inventory of all things sensory when they begin to conduct a piece: using sight to look at both the score and to make eye contact with players, using touch and motion in an intricate relationship, and of course using the ever-important auditory element. The act of conducting is defined in the Concise Oxford Dictionary of Music as, “The art (or method) of controlling an orch[estra] or operatic perf[ormance] by means of gestures...” (Kennedy 2007), but anyone who has studied conducting knows that there is so much more involved than controlling an ensemble by means of gestures. In this way, many conducting courses at the collegiate and graduate levels tend to be structured as a survey of best practices according to whoever is teaching the course.

What many conducting curricula lack, however, is empirical evidence to support these best practices. A particular gesture might be perfectly effective for one conductor, but to another, it could look completely rehearsed and meaningless. There are a myriad of ways one could approach score study. Baton grip and posture are also wholly dependent on the conductor and their own personal physical limitations. With the addition of research-based claims about

conductor expressivity and the universal truths about how to convey music, aspiring conductors can be more autonomous in finding a way to learn that is individually tailored.

The aim of this paper is to highlight the gaps in undergraduate conducting pedagogy—where students are not learning how to become autonomous—by providing substantiated evidence towards a sensory and self-directed approach.

Modern Conducting Pedagogy

In most college and university settings, a professor will be assigned to teach a conducting class because they conduct an existing ensemble (Ray, 1976). As with any aspect of music teaching, the ability to perform at a high level does not always mean that the ability to teach is congruent. A professor may be inclined to impart knowledge that was passed down from conducting teacher to conducting teacher, but is that knowledge practical for a student who has specific problems that need to be addressed.

Three undergraduate music education students were interviewed about their perceptions of a beginning conducting class as part of a study by Brian Silvey and Marci Major (2014) of the University of Missouri. One of the students who was interviewed expressed disappointment in her instructor's feedback, and that it was not constructive or helpful to her in developing her conducting skills. However, this student found that watching videos of herself conduct helped to highlight areas of her conducting that needed improvement. Other students who participated in the study reported that it took considerable amounts of time from the beginning of the course to about mid-way through the course to understand the complexity of learning how to conduct. Using the video feedback was helpful to the two other students who were interviewed, supporting the idea that letting students self-diagnose and self-evaluate could be an approach

worth considering in future conducting classes (Silvey & Major, 2014). One could argue that conducting teachers need to be more sensitive to the individual needs of their students in giving more personalized feedback, but it also might be informative for students to self-evaluate first followed by affirmation from the expert.

There are several common topics in conducting pedagogy that are addressed in many different ways, according to the ideas of the particular pedagogue. These elements, such as the use of the left hand, fermatas, basic beat patterns, preparations, and cuing are all essential to the development of a skilled conductor. Scot Hanna-Weir advocates for the construction of one's own personalized conducting pedagogy based on the careful study of many of the leading conducting pedagogues such as Malko, Green, Rudolf, Demaree, and Moses. Despite there being many differing opinions about how a novice conductor should approach the study of the art, the common problem will always remain: How must a conductor convey musical meaning in a nonverbal way? (Hanna-Weir, 2013).

My approach to this question is to look at conducting as an activity that involves multiple sensory systems. Conductors use their sense of sight, hearing and touch most overtly—but the use of the vestibular and proprioceptive senses are also critical in conveying intent through complex physical motions. Through this examination and awareness of our own senses, we as conductors can better understand our own process of conducting, and in turn will inform our teaching more completely.

The Auditory System: An Approach to Score Study

Audiation is the complex process of internalizing musical sounds in one's mind, absent of any actual sound being made (Brodsky et. al, 2008). To learn a piece of music, a conductor must

first learn how the music will sound eventually with players on all of the parts. There needs to be study of the score ahead of time, and to begin learning how to conduct a piece of music, a novice conductor must realize the desired end-product sound.

There are many differing opinions on the use of recordings as models for learning a piece of music. Some argue that using a pre-recorded example of a piece will influence the conductor's perceptions of how the piece should sound, but others say that using a recorded model will actually improve error detection and sensitivity to tempo and dynamics. In a study by Mark Montemayor and Emily Moss (2009), novice conductors were found to be more sensitive to the ensemble after using a model recording to help learn a piece as opposed to a no-model situation. In the "No Model" situation, conductors were more internally focused on their own interpretations as opposed to being more externally focused on the sound that the ensemble produced in the "Model" situation. In terms of error detection, this study found that using a recorded model improved accuracy, but did not help with individual conductors' development of expressive ideas (Montemayor & Moss, 2009).

Don Crowe (1996) at South Dakota State University found similar results. When beginning conductors had a correct aural example used to aid in score study, the results of their knowledge tests of those actual scores was much higher than those who had no aural example (Crowe, 1996). Recordings can be used to help conductors audiate the score and provide a starting idea for how the piece will sound in its finished product. Making sure that novice conductors use a quality recording is crucial as well.

Being aurally familiar with a piece of music is essential in developing a complex understanding of it, and Alex Treviño's (2008) research points in favor of using an aural model to promote expressivity in novice conductors' gesture. He found that the group of students who

used an aural model with score study was more prepared and more likely to use expressive gestures from the start because of their increased familiarity with the piece as compared to the students that were not provided with an aural model. With all things considered, conducting teachers may want to include more emphasis of aural learning when approaching score study with novice conductors, or at least until the complicated skill of audiation is better developed.

Movement, Proprioception and Conductors' Gestures

Gestural expressivity is a key element in conveying musical meaning. Perhaps one of the most difficult elements of conducting to teach, it is often what separates the more effective conductors from the rest. Gestures in and of themselves are complicated—described as being either symbolic or physical (Mannone, 2019). A symbolic gesture in music refers to the information gleaned from the score: the dynamic marking, the articulation, note-length, even pitch. Mannone describes a symbolic gesture in this way, “Play this key, at this time, with this loudness.” The physical gestures described in her paper are produced by both performer and conductor, and involve physical motions in real time and space that express the symbolic gestures in the music. There are numerous studies pointing to the positive effect of performer expressivity through motion on listener’s perception. Listeners consistently rate performances with higher levels of expressive movement as compared to performances with little or no expressivity (Juchinewicz, 2008; Silveira, 2014). These studies suggest that expressive movement plays an important role in making music.

The most interesting and complex aspect of conducting is that both the listener and conductor are participating in silence. While the conductor moves to elicit sound production, the listener is receiving that information and, based on prior listening exposure and experience,

interpreting it in a very personalized manner. Mannone adds, “The conductor belongs in the *motor* world while the listener to the *perceptive* world.” But how can conductors’ sense of movement produce desired sound from an ensemble?

In a study looking at short-term instruction of conducting gestures, students in seventh grade band were much more successful in producing desired sound through the repeated instruction of very specific conducting emblems (Cofer, 1998). Although some studies point to the effectiveness of conductor verbalization in eliciting desired effects, such as dynamic changes (Skadsem, 1998), it is widely accepted that gesture is the most efficient way to convey expressivity and meaning. In a 2016 by Jeremy Manternach, conductors’ preparatory gestures were examined in relation to singers’ muscle engagement. He found that there were certain motions that elicited certain sound results: for example, a closed-fisted gesture produced more of a tense sound and muscle movements than did an open-palmed gesture. Inhalation patterns were also measured, and it was found that it was more efficient during conductors’ downward motions as opposed to upwards motions (Manternach, 2016). It is to be noted that there seem to be commonalities in conductor kinematics based on compositional elements found in the music (Huang et. al). This suggests that despite a conductor’s own idiosyncrasies, there are common elements of gesture that clearly convey intent. The task of conducting teachers should be to identify these very basic foundational elements of gesture and present them to novice conductors as starting points for their own personal gesture development.

Tactile Sense and Conducting

Although it may look like a conductor merely waves their arms around in time to the music that is being played in front of them, the act of touching the air between their bodies and

the ensemble's sound is something very unique and complex. Not only does the touching of the air require careful timing and attention to detail, it must be done in a way that is understandable to the players. In a 2009 study by Geoffrey Luck and John Sloboda, the act of synchronization that occurs between conductors and ensemble members was analyzed in relation to the beat pattern. They found that it was more reliant on the temporal aspect than the spatial. In other words, ensemble members were more likely to synchronize based on the speed of the gesture between beats as opposed to the direction of the beat pattern. The change in speed was more significant, and the change in direction was less (Luck & Sloboda, 2009). The conducting plane is also an important element of motion and perception. The conductor touches the plane, either with their hands or with the tip of the baton, to demonstrate the meter and the beats. The placement of the conducting plane matters when it comes to perceived expressivity. Silvey and Fisher's (2015) study showed that conductors who kept time in a highly-positioned conducting plane received the lowest ratings of expressivity. Keeping a lower conducting plane may increase performer perception of expressivity.

Having a solid baton grip will ensure security and clarity in a conductor's gestures. Using visual feedback in the correction of baton technique and posture have been found to be very effective (Scott, 1992). Video-taping and self-reflection are two of the most powerful tools in developing an individual style of conducting that is understandable and universal. In addition to the auditory, proprioceptive and tactile aspects of conducting, the visual aspect is a very important element as well.

Sight-lines, Eye Contact and Conductor Efficacy

Before the significance of visual stimulation in conducting is discussed, we must examine the perceived visual effects of performance expressivity. Evidence suggests that visual aspects

influence how listeners perceive performances and interpret music. For example, when performers' facial expressions match the mood or feeling of a particular piece of music, the listener's overall experience is augmented (Thompson et. al, 2005). When it comes to conductors' role in expressivity, research has found that the more expressive a conductor is in their gestures, the more the audience perceives the music itself to be expressive (Kumar & Morrison, 2016). This is an interesting phenomenon that is not often emphasized in conducting methods: how the conductor is viewed by the audience. Because the time spent in rehearsal is higher as compared to the time spent in performance by most performing groups, conducting pedagogy stresses the importance of making the performers experience the expressiveness, and does not usually spend time focusing on how an audience will experience the music. This might be an interesting angle to include in a conducting course.

Speaking of angles, it is important to teach beginning conductors how to "move around" an ensemble to address certain elements with different sections. This is an interesting phenomenon that occurs when a conductor needs to cue a solo, for example, the concertmaster of an orchestra or the French horn section. In a study led by Peter Visentin (2010), it found that conductors did not have to move as much to address different sections of an ensemble to achieve the desired effect of inviting certain musicians to play. It is also suggested here that in the midst of a performance, over-compensation can be the likely culprit for unnecessarily grandiose gestures (Visentin et. al, 2010).

In regards to maintaining eye-contact with the ensemble, it is widely accepted that performers feel more secure and engaged when the conductor makes eye contact. Matthew Harden found that high school students preferred constant eye contact with their conductor, even over moderate overall eye contact (Harden, year). Participants in another study by Edson

Carvalho in 1997 seemed to favor more eye-to-eye communication with their conductor as well, substantiating Harden's findings (Carvalho, 1997). Making eye-contact between conductors and ensemble members is an important way for connection and conveyance to happen.

Implications for Conducting Pedagogy Courses

With these elements of the senses in mind, I have thought a great deal about how a beginning conducting course would look. I can remember the first time a teacher explained basic conducting patterns—I was in eighth grade advanced orchestra, and we were learning a piece for the first time in 6/8. From then on, my curiosity grew and it was not until I was a senior in high school that I was able to get up in front of a group and conduct a piece. I didn't learn anything formally; I just did things that were instinctual. I think that my insecurity about conducting really started in my junior year of undergraduate school, when I took my first "real" conducting class. Specific feedback was given, but it felt more like a game of "Simon says" than it did a class to refine my own natural musical instincts.

Now, looking back, I realize that if I had been given more empirical evidence about the effectiveness of certain tendencies while conducting, I think I would have had a much better attitude towards learning the art of conducting. A class designed with a student-centered mentality would be rooted in the idea of self-evaluation, reflection, and peer constructive criticism. Giving students a wide variety of ways to express their own musical ideas, while adhering to a set of "best practices" as outlined in this paper (but certainly not limited to the ones I have mentioned, as there is a huge body of research on conducting) is how I would approach teaching a beginning conducting course.

I have included a simplified version of my ideas in the form of an infographic, which I hope to include in my final portfolio here at Northwestern as part of an interactive online resource. Ideally, each category of senses would be linked to video-descriptions of examples and non-examples of clear conducting. This could potentially be useful for both students and teachers as a guide to empirically-based practices.

Self-Directed Conducting Pedagogy Approaches

Expressive conducting is effective conducting.

Effective conducting is satisfying for both the performer and the audience.



- Maintaining eye-contact with ensemble members
- Audiences prefer to watch expressive conductors
- Moving around the ensemble doesn't have to be a production!



- Using video feedback will help to analyze proper posture and baton grip
- Touch the middle and bottom of the conducting plane for clearest results



- Ensemble members read more into the speed of the beat pattern as opposed to the direction.
- Moving expressively will increase levels of perceived expressivity and may encourage your ensemble members to do the same
- Develop your own conducting emblems that will be consistent and easily recognizable by your ensemble members

- Using a recording to help familiarize yourself with the score can make error detection easier once you're on the podium
- It can also help develop your own unique expressive gestures
- Once you can "hear" the music in your head, you're well on your way to knowing the piece!



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