Clinic: Teaching Intonation Creatively for String Orchestra

presented by Kirk Moss — reported by Faith Farr

Dr. Kirk Moss, Chair of the Department of Music and Theatre at the University of Northwestern–St. Paul, got our clinic sessions started on a wonderful note with freebie books from the *Sound Innovations* series (Alfred Publishing) for all attendees. Kirk explained that there are now 5 books in the series: *Book 1* (blue), *Book 2* (red), *Sound Development Intermediate* (green), *Sound Development Advanced* (purple), and the latest *Creative Warmups* (gold). He suggested that the green book could be used as warmups in private lessons or classroom, and many of the exercises can be taught by rote.

Kirk reminded us that there are many systems of intonation or temperament, including: mathematical; just; Pythagorean (which fixes the fifths and moves the thirds); mean tone (which fixes the thirds and moves the fifths); well-tempered; equal tempered; expressive; harmonic tuning (where the melody notes are influenced by the harmony); melodic tuning (e.g. double sharps are extra sharp); coloristic (where wide intervals are wider). String teachers live in the world of "corrective tuning"—where things always need fixing.

Prerequisites for good intonation include a balanced body platform for functional instrument placement, and left-hand format that has correct instrument position and angle, correct elbow/arm placement, correct and functional thumb placement, and curved, flexible fingers. It is important to realize that fingerboard tapes should be more for the teacher's use than the student's!

For upper strings, it may be helpful to drill students in Bornoff's finger patterns. Students should be able to give the "Live long and Prosper" hand greeting in any of the patterns: pattern 1 = 1-23-4; pattern 2 = 12-3-4; pattern 3 = 1-2-34 (low 1, low 4); pattern 4 = 1-2-34 (high 3). For cello forward extensions, it is essential to move the thumb a long way—the whole step is always between fingers 1 and 2.

Kirk recommended *The Tuning CD* by Richard Schwartz because it includes different overtones, e.g. D with major third, with minor third, with perfect fourth etc. With all the technology available, it is essential to train students to tune by ear, and not exclusively by eye.

Traditionally, shifting is driven by a constant key signature—the finger pattern changes in the new position. The *Sound Innovations* shifting system is kinesthetically driven—keeping the same finger pattern in the new position. For example, upper strings might shift from first position pattern 1 (E–F♯G–A) to third position pattern 1 (G–AB♭–C).

Playing with a beautiful tone goes hand-in-hand with playing in tune. Characteristics of tone are affected by bow placement/lane, arm and hand weight, and bow speed. *Sound Innovations* uses 3 lanes: ***p*** lane near the fingerboard; ***mf*** lane in the middle; and ***f*** lane near the bridge. You can have more lanes if you want, but Kirk recommends not using numbers because we are already using numbers for counting rhythm, locating measures, designating fingers and naming positions, among other things.

There are many steps to teaching students how to tune their open strings. Matching the tuning tone with the voice (singing) should be a regular part of the tuning routine with the goal of matching the tuning tone with the open string. Peg manipulation is a second or third year skill. The prerequisite skill is to answer yes/no to the question "Is it in tune?" If the answer is "no," remember that it is easiest to match the pitch by coming up from too flat. Cellists and bassists need to learn the additional skill of octave transposition—cellists are listening to A=440 but playing A=220. It may be helpful to teach cellists and bassists how to tune by harmonics because the harmonic pitches are easier to sing than the fundamental. (Cellists compare the ½ string harmonic played by finger 3 to the ⅓ string harmonic played by finger 1 in fourth position on the next lower string. Bassists compare the ⅓ string harmonic played by finger 4 in third position to the ¼ string harmonic played by finger 1 on the next lower string.)

Kirk likes having a class tune from the basses. He has electronic tuners by the bass rack. After the bassists have tuned themselves, the rest of the ensemble tunes by listening. His tuning routine is: basses play A. Cellists add A, at the tip, softer than the person next to you. Then violinists and violists add A. Everyone sings D while playing A. Bassists go to D while everyone else stays on A. Then cellists go to D, violinists/violists go to D, etc.

The acoustics of the orchestra classroom affect intonation. Make sure your room is "live" enough that you can hear the overtones. Research has shown that inaccuracy in tuning is related to distance from the tuning tone, so consider your room setup. In a typical room, the speakers are at the front and the bassists are at the back—the farthest from the speakers and with the greatest challenge of octave displacement. Consider having the basses nearest the conductor so that everyone can hear better.

Kirk finished his presentation by leading us through a Taqsim—an unmeasured and then a measured improvisation based on an Arabic/Turkish music style. Most of the class played a drone, while selected volunteers created an improv from a selected note group (e.g. E, F, G, A, B, C, D, E). The drone helped focus the pitch, and soloists needed chamber music/signaling skills to bring in the next soloist when their improv was done. Kirk recommended this style of improv as very accessible and easier than jazz. Many orchestras have found a wonderful concert opener by blending their tuning routine with a Taqsim. The bassist who started the tuning A starts the Taqsim drone, then volunteers do their solo. The *Sound Innovations* gold book leads you through many preparatory steps. For more info about this type of music go to www.maqamworld.com.

Faith Farr has been editor of this magazine since 1996.

Originally published in MNSOTA's *String Notes* — Winter 2018/2019 (Vol. 21, No. 2)