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**Refining Ensemble Intonation Using
the Yamaha Harmony Director**

**CLINICIAN:
Jordan Stern**

**Demonstration Group:
Johnson HS (Northeast ISD)**

**HENRY B. GONZALEZ CONVENTION CENTER
SAN ANTONIO, TEXAS**

Refining Ensemble Intonation Using the Yamaha Harmony Director

Clinician: Jordan Stern - Texas State University

Demonstration Group – C.T. Johnson High School Wind Ensemble

Prerequisite Director Skills

- An internalized, ideal sound image for ensemble tone quality, balance and intonation
 - o Recording study
 - o Attending concerts
 - o When a band sounds great, ask yourself “Why is this good?”

Prerequisite Student Skills

- Centered, vibrant tone quality
- The ability to bend a pitch up or down on an instrument

Application #1 – Performing a fixed-pitch interval tuning exercise (Remington) against a drone

- The teacher will sustain a drone note on the HD by pressing the hold button and then playing the note(s) they want to sustain
- For an F Remington, either sustain an F in two octaves, or an open 5th voicing (F-C-F)
- The student should compare the sound of the second note to the sound of the drone
 - o The note should be placed where it sounds the most *resonant* and *consonant*
 - o The students should listen for beats of interference between their pitch and the sound of the drone
- Tips
 - o Do not play the drone too loudly
 - o Incorporate singing
 - Use a neutral syllable such as doo
 - It can also be useful to sing using numbers, interval names or solfege
 - o Split the woodwinds and brass up into a question-and-answer setting
 - This can help to make it easier to hear the drone
 - o Have the students provide the drone
 - Playing or singing
 - This will help to develop the skill of having students listen to each other
 - o Remove the aspect of rhythm
 - Treat each note of the exercise as a fermata in order to give the students time to experiment with adjusting the pitch and finding where the interval sounds the most resonant and free from beats of interference
 - Once your students build strong habits, go back to playing the exercise in rhythm
 - o Try to avoid using the metronome function and the drone function at the same time
 - Some students may have a hard time attending aurally to two stimuli simultaneously

- Assess your students' ability to hear beats of interference
 - Have your students play one at a time or in small groups against the drone
 - Have the students who are not playing hold their right hand at chest level with fingers extended, palm facing the ground; and show the speed of any beats they hear by moving the hand up and down
 - Slower beats = Closer to in-tune
- Avoid overwhelming your students with superfluous information
 - Keep directives simple
 - Rather than saying, "lower that major third 13.7 cents," instead try "center that note a little lower than you normally would"

Application #2 – The Exemplar Chord

- It may be useful for the ensemble to have an 'ideal' chord against which to compare the quality of other chords
- Here is an example of a chord that is scored in such a way as to be naturally resonant and in-tune
 - Notice that the third of the chord is placed on notes that naturally center slightly flat on their given instruments

The image shows a musical score for a brass and woodwind ensemble. The score is written in 4/4 time and features a single chord for each instrument. The instruments are listed on the left: Flute, Oboe, Bassoon, Clarinet in B \flat , Bass Clarinet, Alto Sax, Tenor Sax, Baritone Sax, Trumpet in B \flat , Horn in F, Trombone, Euphonium, and Tuba. The notes for each instrument are as follows:

- Flute: Middle C (C4)
- Oboe: G4
- Bassoon: G3
- Clarinet in B \flat : C4
- Bass Clarinet: C3
- Alto Sax: G4
- Tenor Sax: G3
- Baritone Sax: C3
- Trumpet in B \flat : G4
- Horn in F: C4
- Trombone: G3
- Euphonium: G3
- Tuba: C3

The notes for the Clarinet in B \flat , Alto Sax, Tenor Sax, and Baritone Sax are marked with a '3' above the note, indicating a third finger fingering. The notes for the Flute, Oboe, Bassoon, Bass Clarinet, Euphonium, and Tuba are marked with an 'R', indicating a right-hand fingering. The notes for the Trumpet in B \flat and Trombone are marked with a '3' above the note, indicating a third finger fingering.

- This chord should be refined by tuning each chord member against a drone from the HD, and then can be 'stacked' in the following order: Root-Fifth-Third
 - o Balance is another crucial part of refining chords. I like the following balance as a 'default' for triads: 50% Root, 30% Fifth, 20% Third
 - When stacking the chord, you can think of the Fifth as coloring the Root, and the Third as coloring the Fifth
- The exemplar chord can be placed next to any other chord your band is working on in a 'comparison exercise'
 - o The band should sustain the exemplar chord for 4 counts, rest for 4 counts, and then sustain another chord for 4 counts, which can be taken from a band's concert repertoire or chosen by the director for the sake of exercise
 - o The ensemble should strive to make the second chord as resonant, balanced and in-tune as the exemplar chord

Application #3 – The Audiation Sequence with the Circle of Fourths

- Audiation: A term coined by music educator Edwin Gordon
 - o The act of imagining a sound that is not physically present
- The following sequence can provide your students with the opportunity to practice the internalization of pitch
 - o Step One: Teacher sounds a pitch for 4 counts on the HD
 - o Step Two: The student audiates, or mentally rehearses the pitch for 4 counts
 - o Step Three: The student sings the pitch for 4 counts
 - o Step Four: The student audiates once again as they prepare to play their instrument
 - o Step Five: The student plays the pitch for 4 counts
- Why do this?
 - o The goal is to get the students to move the sound of the drone from their echoic memory (which is a temporary storehouse for sounds) into their long-term memory (which is much more durable)
- Try first with a single pitch, then move to a series of pitches, such as the circle of fourths
 - o See Edward Lisk's book *The Creative Director* (published by Meredith Music) for a multitude of ideas for fundamental exercises based on the Circle of Fourths
- An example of an application of Lisk's Circle of Fourths Exercise: Major Triads through the circle of fourths
 - o Lisk recommends having the band memorize the notes in the circle of fourths, or for the director to give them a sheet with the note names written down
 - o In order to eliminate any gray area regarding octave choices, I have written the sequence out for the band
 - o Today, we will break the band into three groups
 - Group 1 (Root): Piccolo, Flute 2, Trumpet 3, Clarinet 3, Tenor Sax, Bari Sax, Bass Clarinet, Bassoon 2, Horn 1, Bass Trombone, Euphonium, Tuba
 - Group 2 (Fifth): Trumpet 2, Clarinet 2, Alto Sax 2, Horn 2, Trombone 2, Oboe 2

- Group 3 (Third): Flute 1, Oboe 1, Trumpet 1, Clarinet 1, Alto Sax 1, Trombone 1
 - Starting Notes
 - Group 1: F Concert
 - Group 2: C Concert
 - Group 3: A Concert
 - This group will be prompted to center their pitch a little bit low in order to sound beatless, resonant and consonant
 - The ensemble will now play through the circle of fourths in whole notes, with a measure of rest between each chord
 - Some chords are naturally easier to play beautifully than others
 - Be persistent with the more difficult chords (such as B major and G flat major), perhaps comparing them to the exemplar chord from application #2)
- Once three-note chords are played successfully, the ensemble can explore 4 note sonorities such as triads with added voices (Example: F add 6, F-A-C-D) seventh chords (Example: F Major Seven, F-A-C-E), and more contemporary voicings such as altered dominants (Example: Dominant 7 Flat 9, F-A-Eb-Gb)
 - The goal should be for the ensemble to become familiar with a variety of different vertical sonorities, with the director encouraging them to be flexible with their balance and intonation in order to make each chord sound as resonant and colorful as possible.

Application # 4 – Three-Note Chorales

- The three-note chorale is a useful vehicle for working on ensemble intonation through the essential progression of IV-V-I
- This exercise can be taught by rote, with the students finding their notes based on scale degrees in a given key
 - The key of B flat is a logical starting point

Part	Scale Degrees	Suggested Instrumentation
Soprano	8-7-8	Flute, Cl. 1, A. Sax 1, Tpt. 1, Euphonium
Alto	6-5-5	Oboe, Cl. 2, A Sax 2, Tpt. 2, Horn 1, Tbn. 1
Tenor	4-2-3	Cl. 3, Tenor Sax, Bsn. 1, Tpt. 3, Horn 2, Tbn. 2
Bass	4-5-1	Tuba, Bass Cl., Bari. Sax, Bsn. 2, Bass Tbn.

- Direct your students to center scale degrees 3, 6 and 7 lower than they would with an Equal Temperment tuner
 - The adjustments to scale degrees 2, 4 and 5 are relatively small, so the teacher should use their discretion in regards to how much information to supply their students about these scale degrees.

- The ensemble can learn each part in unison, with the teacher modeling as appropriate on the HD keyboard (making sure that the HD is set to Pure major in the appropriate key)
- The following suggestions may be helpful:
 - Have the ensemble work on two voice parts at a time, starting with Soprano-Bass.
 - Prompt the students to listen to the counterpoint between the two lines, and try to make the tuning beatless and the sound as colorful and free from extraneous noise as possible.
 - Try having the students perform the three-note chorale for the class in different quartet settings (i.e., trumpet, horn, trombone, tuba; or two alto saxes, tenor sax, bari. sax).
 - You could have the students participate in a fun competition in class to see which quartet can play the three-note chorale the most beautifully, with the students acting as judges.
 - Try having the band play the chorale with only one player per instrument part (One 1st trumpet, one 2nd trumpet, etc.).
 - Then have the full band imitate the clarity that they heard in the context of one player per part.

Useful Resources

- *Tuning for Wind Instruments: A Roadmap to Successful Intonation* by Shelley Jagow (published by Meredith Music Publications).
- *The Creative Director: Alternative Rehearsal Techniques* by Edward Lisk (Published by Meredith Music Publications)
- Winds Vol. 3 Harmony Training for the Ensemble DVD – Published by Bravo Music

Questions? Feel free to contact me at js1052@txstate.edu