

A GUIDE FOR SAXOPHONE PEDAGOGY

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Vocal Tract Awareness

A study at Lawrence University, led by Professor Steven Jordheim, demonstrated involvement of the vocal mechanism (throat and tongue) in the performance of standard and extended saxophone techniques. The endoscopic examination of six saxophonists provided information to inform our teaching practices. We uncovered a few mysteries about specific vocal tract mechanisms connected to sound production and manipulation. This information proves immensely valuable when teaching standard and extended techniques.

Summary: The videos “revealed that the action of the vocal mechanism was nearly identical across the group of participants for nearly all techniques performed in the project.” After posting the recording project in 2010, we have also learned that the vocal mechanisms of saxophone techniques closely mirror the mechanisms of singing. Therefore, singing technique is an effective teaching strategy to build the concepts and skills addressed below.

To view the research as it pertains to specific techniques, visit the Saxophonist’s Anatomy website: <http://www2.lawrence.edu/fast/jordheis/welcome.html>

Tone Production

Key kinesthetic elements are required to produce a beautiful, controlled saxophone sound.

1. Posture, Holding Position = the body as our instrument. See Alexander Technique!
 - Concept: Relaxed, soft, balanced, and upright posture, rooted softly to the ground/chair like a flexible tree.
 - Skill: windmills or jumping jacks to form balanced and upright alignment. It’s difficult to do these with poor posture. Add instrument when skill is learned. “Bring the saxophone to you.”
 - Assessment: Use a mirror, camera, & video to assess optimal horn placement and posture--and everything else below, for the most part.
2. Breath
 - Concept: The optimal breath and airstream is one that is easy to produce. Imagine a big *sigh* (without the shoulder thing, of course). The only thing we have to do is sigh into the saxophone.
 - Skill: Breathe low as if filling a water bottle, feeling the expansion in the lower rib cage and lower gut. Alto players should feel the breath in their right thumb.
 - Training good breathing: place hand in front of lips to engage diaphragm during energetic inhale while keeping the throat in an open “oh” shape.
 - Floor exercise: Lie down on the floor, put your hand on your stomach while breathing. Feel the expansion. Keep the same feeling as you breathe while standing.
3. Embouchure

- Concept: A flat chin and “oooh” mouth shape are key to having optimal control of all registers and dynamics.
- Skill: Suck your thumb. Place top teeth on the thumb pad and the lower lip comfortably/slightly curling over your bottom teeth. Inhale. This firms the mouth corners, flattens the chin, and disengages the cheeks muscles. Next, exhale but maintain the same embouchure muscles to create a seal around the thumb. Substitute the mouthpiece to transfer the skill.
- Teeth placement: To find the optimal amount of mouthpiece, place top teeth and lower lip where the reed and mouthpiece meet. Tip - insert a thin strip of paper between the reed and mouthpiece to find this location; pencil a line on the reed for reference.

4. Tongue Position

- Concept: The saxophonist’s tongue is placed in the “EEE” position.
- Skill: Arch the back of the tongue high in the mouth while keeping the tongue’s tip relaxed at the base of the lower teeth. Hiss like a cat, or say the word “tea” to feel the appropriate tongue position. This only changes in the extreme end of the altissimo register in order to reduce the length of the vocal tract (“ah”).
- A flat, dropped tongue (“aww”) leads to poor intonation, high overtones, squeaks, slapped articulations, and difficulty playing the low and high register. It’s really that bad.

Mouthpiece-alone exercise

Successfully producing the appropriate pitch on the mouthpiece alone requires and fosters the principles above. See also pitch flexibility below for additional concepts.

Tip: Be sure to sing the pitch first (“eee”) to correctly place the vocal tract.

- Concert Pitch: Soprano = C3, Alto = A2, Tenor = G2, Bari = D2
- Once the student can play the appropriate pitch consistently, bend the pitch down a half step and back. Sing, then apply to mouthpiece. Increase the interval in sequence.
- Next apply various dynamics while maintaining the appropriate pitch. This also assesses optimal embouchure and vocal tract. Good luck!

Pitch Flexibility

Pitch flexibility is the cornerstone of my saxophone lessons. It is a gateway for developing excellent tone, dynamic control, tuning, and vibrato. It is never too soon to introduce flexibility to a young saxophonist.

NOTE: Jaw and vocal tract manipulation are not exclusive skills; they are to be applied simultaneously. The tongue muscle is attached to the jaw, after all.

1. Jaw manipulation

- Lower the pitch of any note by swinging the jaw down and back towards the neck, as if saying, “yaw” or “duh.” Tip: Place the tip of the tongue on roof of mouth while moving the jaw. This guides the jaw into its proper gliding motion. Put hands on jaw bone to feel the correct, natural motion.
 - I recommend beginning with middle D. Maintain an arched tongue (“eee”) with an intensely fast airstream.
 - Try bending forward at 90 degrees so that tongue and jaw will be relaxed.
 - If the sound honks or drops an octave, the jaw is moving forward rather than down and back. The tongue could also be flat/dropped.
2. Vocal tract manipulation (voicing)
- Concept: Advanced vocal tract awareness can lead to internal movement to manipulate the pitch and timbre, especially of the upper register.
 - Skill: Experiment with whistling. Notice the arched tongue tracking the roof of the mouth when ascending and descending the whistle. This closely resembles saxophone voicing technique. Singing the pitch establishes accurate vocal tract positions and tracking.
 - Assessment: pitch flexibility, overtone exercises, altissimo development
3. Tuning strategies: These techniques encourage students to hear pitch in relation to another pitch and develop the skills of adjustment through mouthpiece placement and bending.
- Advocate for singing with tuning drones. Remember, “eee” tongue position.
 - Tune to concert A (both octaves) and the 5th. Most models need “long” C-sharp to lift pitch - octave key + 3rd finger.
 - Pull the mouthpiece all the way out and slowly push in until the student identifies it as in tune.
 - Push the mouthpiece all the way in and slowly pull out until the student identifies it as in tune.
4. Vibrato
- See *jaw manipulation* above for fundamentals of vibrato movement.
 - Artistic application - use excellent models, from singers to strings to other woodwind performers, but mostly the singing. Hard to beat that reference.
 - Strategies for practice: You can alter the speed of the vibrato making it faster or slower depending on the music that you are playing. A good general speed for saxophone vibrato to practice is quintuplets at quarter note = 60.
 - i. Apply an expressive objective for the exercise: “play this scale with a spinning, joyful vibrato,” or “play with a morbid and ominous vibrato.”
 - ii. You can alter the amplitude of the vibrato and make it wider or narrower depending on the register as well as the intensity of the music. The lower in the range you are, the wider the amplitude of the vibrato will be. As

you get higher the vibrato needs to become narrower.

5. Octave Flicks

- This is an exercise for students to make sure they are using the correct embouchure, voicing, airstream, and hand position. Start on a middle register C and tap the octave key; it should simply pop up and then return. Ascend and descend to check other registers.
- Lack of success: too much or too little mouthpiece, too much jaw pressure on the reed, voicing too high and keeping the upper octave sounding without the octave key (flat tongue).
- Tips: Do the fingerings for the students so that they don't know when you're going to switch. Show them that there is no need to change anything in their body to switch octaves.

Articulation and Initial Attack

The top of the tongue, just above the tip, contacts the very tip of the reed. Maintain an arched tongue.

A helpful acronym for teaching initial attack (starting a note) is FETA .

Fingers on the keys.

Embouchure must be fully and correctly set

Tongue must be on the reed tip (lightly as in legato articulation) and arched.

Air is behind the tongue, always in motion.

Accessible Extended Techniques

There are many accessible extended techniques that can be performed on the saxophone by students. The saxophone is a very flexible toy, after all, and an excellent vehicle for creatively exploring unique, non-traditional sounds.

Flutter tongue

There are two methods of flutter tongue. Firstly, simply rolling your R's while the mouthpiece is in your mouth will cause the necessary vibration. The tongue has to be relatively far back in the mouth in order to produce the roll without bumping into the mouthpiece. Secondly, the tongue can vibrate against the uvula. This is usually referred to as the purr or growl. Have the student try this technique at 90 degrees.

Circular breathing

This technique can be simplified into the following steps.

- Fill the cheeks with air. Feel the position of the tongue—it will have to be sealed against the hard palate, as if about to say “kuh.” While keeping the cheeks filled, inhale and exhale through the nose. Notice that the tongue is still arched against the hard palate.
- Use your fingers to force the air out of the cheeks as you inhale and exhale through the nose. Then try using your cheek muscles and tongue to force the air out as you inhale.
- Immediately switch to exhaling from the lungs once your supply of air in the cheeks has run out.

This technique can be practiced on long tones and descending scales. The challenge, of course, is to maintain the tone color and pitch (hint, keep the chin flat).

Slap tongue

There are several types, including Open (bark), Closed (tuned), and Ram Tongue (tuned). In general, the tongue creates a seal between the reed and the mouthpiece, pulls it down, producing a percussive effect.

- Start with the mouth open and create a seal with your tongue on the reed.
- Form the embouchure and produce the same tongue motion with the mouth closed.
- The tongue will probably be hitting underneath the reed (flat portion), enveloping it and then releasing the pressure very quickly.
- Do not blow air in open and closed slaps. The only air released comes from the aggressive tongue release.
- NOTE - Be sure that students can articulate correctly before attempting to teach slap tongue because this is precisely the motion that we do not want our students to have when doing legato articulation.

Double tongue

Double tonguing is a technique that is often used in contemporary repertoire. It is important for the advanced student to master. Start by having the student practice saying “tee kee tee kee” at a comfortable, relaxed tempo. Have them continue to do this until they can do it at a faster tempo. Attempt to put this onto the instrument keeping the air moving. It might be helpful to attempt this at 90 degrees in order to further relax the vocal tract. Practice in various five, seven, and nine note groupings.

Jazz Embouchure

The embouchure for a jazz player is formed to produce as many high overtones in the sound as possible while maintaining a rich tone. In order to do this the embouchure will typically consist of a lower lip that has been spilled out and will also have more of the reed in the mouth.

- Corners a bit more relaxed and lowered
- Slightly more forward
- Tongue pulled back, but still arched, to produce the brighter overtones.

Excellent Saxophone Models for Listening

A few saxophonists with effective recordings for your students to check out (*non-exhaustive*)

- Contemporary/concert/art: Steven Jordheim, Timothy McAllister, Marcel Mule, Jean Marie Londeix, Joe Lulloff, Otis Murphy, John Sampen, Kenneth Tse, Debra Richtmeyer, Arno Bornkamp, Claude Delangle, Laura Hunter, Nobuya Sugawa, Masato Kumoi, Taimur Sullivan, Christopher Creviston, Sigurd Rascher, Zach Shemon, Ryan Muncy, Don Sinta, PRISM Quartet, H2 Quartet, Habanera Quartet, Mana Quartet, and so on.
- Jazz/improv/art: Charlie Parker, Cannonball Adderley, Sonny Stitt, Sonny Rollins, John Coltrane, Coleman Hawkins, Lester Young, Paul Desmond, Johnny Hodges, Joshua Redman, Chris Potter, Michael Brecker, Branford Marsalis, Antonio Hart, Stan Getz, Dexter Gordon, Wayne Shorter, Phil Woods, Johnny Hodges, Lester Young, Eric Alexander, Kenny Garrett, Steve Coleman, Eric Dolphy, Coleman Hawkins, John Zorn, Ornette Coleman, Miguel Zenon, Colin Stetson, Pepper Adams, Gerry Mulligan, Gary Smulyan, and so on.