



The Midwest Clinic

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# Playing the Long Game: Planning Beyond Beginning Band with Your Beginning Brass Students

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## Concepts from the Research

Based on several different fields of scientific research, recent studies suggest the following concepts are essential to be aware of when teaching any level of brass player. These concepts rarely show up in the method books (especially the beginner methods), and when overlooked, might create a ‘ceiling effect’ that limits the potential of brass players as they advance to intermediate and high school playing (or beyond). Minor changes to approach will set them up for less “re-learning” in the future.

By adopting some of the following concepts, you can foster greater potential with your beginning brass players with minimal invasiveness to your current methods.

## Range Development for Brass Players

**The Science-** Based on years of anatomy and physiology research (including neuromuscular measurement, etc.), the following statements summarize the challenges with embouchure:

1. No two movements are alike (so the concept of a particular embouchure or setting can be misleading)
2. Movement is context-dependent (we play the same note differently in different contexts)
3. Movement is largely unconsciously controlled (so having students focus on their embouchure creates an unnatural level of conscious control that can cause more harm than good)
4. The environment acts as a constraint to guide movement and learning (the repertoire and exercises they play will affect how their range develops)

**The Problem-** All brass players use multiple ‘settings’ or ‘embouchures’ to cover their range. A single ‘setting’ can only accommodate approximately 1-1.25 octaves. Beginning method books rarely go beyond 1.25 octaves, so beginners rarely have to develop more than a single ‘embouchure’. When they get to high school, it is possible they are trying to play high notes

with a ‘low’ setting that will never work and bad habits emerge in an attempt to compensate. These habits become hard to replace if reinforced for significant amounts of time.

**The Solution-** Expose young players to a bigger range, different tessituras, and work backward for range development (explained further in the presentation).

## Reading Music Notation

**The Science-** Linguistics research suggests a **blocking effect** when associations are made (one symbol having one meaning) that make it difficult to then make a second association for the same symbol (one symbol now having two meanings). The second association will be significantly more challenging to ‘stick’ if the first has a head start (as much as 20 times more challenging!).

**The Problem-** Many method books (especially heterogeneous) stay in a few ‘friendly’ keys where brass players learn to associate a symbol (note head) to mean a certain note. This happens usually before key signatures and enharmonic notes are introduced. Students will receive hundreds of trials where a “B” means “Bb” every time. When students progress to more advanced repertoire, that same symbol could now mean a Bb or a B (even a B#) based on the key signature. Students with 200 single-option trials might need as many as 4000 multi-option trials to re-balance the two options to 50/50 weight.

**The Solution-** Repertoire and exercises should introduce enharmonic notes, ‘unfriendly’ notes and keys, etc. right from the beginning (explained further in the presentation). Playing 3 note-songs in all 12 keys is more valuable than playing 3 different octave songs in only friendly keys.

## Timing and Metronome Use

**The Science-** Neuroscience studies involving fMRI measurement suggests that synchronization tasks and continuation tasks utilize different pathways and different regions of the brain (i.e. practicing with a metronome and without a metronome recruit different brain activation patterns).

**The Problem-** Practicing with a metronome has been shown to be more effective than practicing without a metronome, but there is still a disconnect when students have to then perform without a metronome. How do we bridge the gap between practice and performance?

**The Solution-** There are several resources that enable users to have beats randomly removed from sequences, which helps keep the neuronal activation in the ‘correct’ regions.

## **Articulation for Brass Players (Wind players in general)**

**The Science-** Research in kinesiology (motor learning) suggests that movements are learned and coordinated in a proportional manner (e.g. clapping). Coordinated movements that are twice as slow will have each component coordinated proportionally (twice as slow).

**The Problem-** Slow, long notes are a breeding ground for slow, clunky, *thuddy* tonguing. Most beginner repertoire starts (and lingers) on whole notes and half notes with far less emphasis on shorter notes (8ths and 16ths). Lower instruments are worse off. Usually the reading of rhythms acts as a constraint (we learn to play at a pace of what we can read, not what we can tongue). This fosters young players to develop clunky tonguing habits.

**The Solution-** Introduce faster notes that have to be articulated quickly. This can be through 'call and response' examples, or by introducing faster rhythms (written) in order to expose young brass players to the quicker side of articulation. Slow notes should be tongued as quickly as fast notes.

## **Tempo in Practice (applicable to all humans)**

**The Science-** Research in neurodynamics suggests that as movements are coordinated and become well-learned, the neuronal pathways are streamlined, and various regions of the brain are pruned out of the process.

**The Problem-** Most beginner programs teach that the best way to learn a tricky passage is to slow things down and slowly speed them up. This goes against current research that suggests the slower versions are actually considered different actions (I will expand on this in the presentation) and the process of neural re-routing is less efficient.

**The Solution-** Teach your beginners how to chunk and chain. This will enable them to take small 'bits' and work on them at the goal tempo, and slowly combine them as opposed to slowing down the metronome.

## **Harmonic Context (if time permits)**

**The Science-** Research in fields such as embodied cognitive science suggest that the key to learning is through environmental constraint. We cannot walk through brick walls, we learn to walk around them without thinking about it. The same holds true for social psychology (social norms, etiquette, customs, expectations, etc.)

**The Problem-** Most exercises and warm-ups for beginners are based on mechanical constraints (like the overtone series), not harmonic constraints (like key collection). Most exercises to teach harmonic vocabulary (like scales and keys) are taught in a manner inconsistent with an authentic harmonic environment consistent with Western (or contemporary) repertoire.

**The Solution-** Use warm-ups and exercises that are based in a framework of harmonic context similar to the actual repertoire (I-V-I instead of Remington). Examples will be provided in the session and are available for download (for free).

Please feel free to contact me ([www.jasonsulliman.com](http://www.jasonsulliman.com)) if you have any questions regarding the concepts presented in this session. Thank you!