

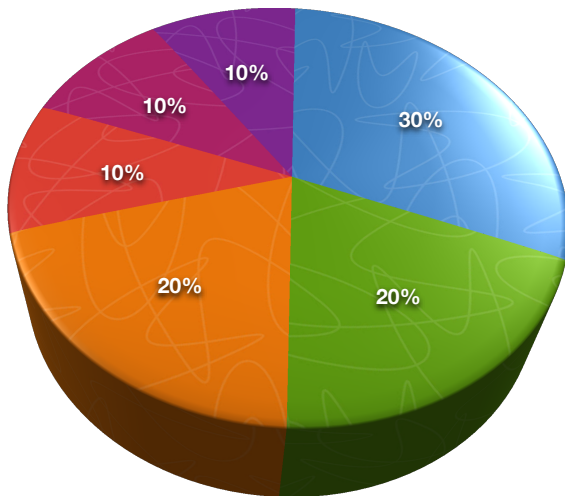
**Not Tuned at the Factory:
Helping Your Students Become Self-Correcting Intonation Machines**

By Steve Smith

While the term “listen” is closely associated with intonation, achieving consistent ensemble intonation in a concert band contains more components than just ear-training. While there is no one sure-fire method to full ensemble intonation, nor is it ever perfected, these are a few ideas that can get a group on the right path.

There are a number of factors that must be developed on a regular basis. This pie chart represents the ideas that need simultaneous development:

Components of Ensemble Intonation



- ✧ **Listening – Awareness (10%)**
- ✧ **Fundamentals (30%)**
- ✧ **Instrument Knowledge (20%)**
- ✧ **Music Preparation (20%)**
- ✧ **Full Ensemble Tuning (10%)**
- ✧ **Listening – Fine-Tune/Troubleshoot (10%)**

Listening - Awareness (10%)

Not only listening, but truly hearing – and finding common ground on “what” is being heard.

- ◆ Students must become “**Pitch Aware**” – Listening to understand must happen on a consistent basis.
- ◆ Intonation Demonstrations - Students must be taught what “in tune” and “out of tune” sounds like.
 - ✧ Demonstration of “waves in the sound”
 - ✧ Technical demonstration with two tone producing devices
 - Must be similar in tone
 - Must be able to adjust pitch incrementally
 - ✧ Working to “remove the waves”
 - ✧ Have students raise their hands when they hear the waves slow down, speed up, or go away completely.
 - Help students better understand the concept
 - Teach you about your students’ ears ☺
- ◆ Move burden to the students – Students must dislike the sound of poor intonation before they will take action on their own.

Poor intonation must be as annoying to the students as it is to the director.

Fundamentals (30%)

A majority of intonation problems in middle and high school ensembles are due to poor instrument fundamentals and/or lapses in the consistency of those fundamentals.

- ◆ Fundamentals and Intonation **can** be taught – *to all types of students. ;-)*
- ◆ Work to teach the **entire class** much like an **individual lesson** with regards to fundamentals. Address individual issues and concerns daily.
- ◆ Proper Playing Technique
 - ◇ Beginning Band Students
 - All aspects of proper playing should be strived for from the beginning.
 - Proper Intonation can (and should) be addressed in the first year of playing.
 - **See Additional Handouts**
 - ◇ Non-Beginners
 - Proper playing should be maintained or implemented.
 - Students can make adjustments (Good students want to adjust!!!)
 - These adjustments are best handled one on one.

Daily Fundamentals:

- ◇ Posture & Hand Position
- ◇ Breath Control Exercises - Not just breathing exercises, but gaining control of the air used to perform on specific instruments. This must be done at every practice session.
 - Breathing Tubes – Expensive or hardware store
- ◇ Mouthpiece/Reed/Head joint Placement – this can alter pitch by as much as a half step in some instances.
- ◇ Proper Embouchure – While there are a wide variety of opinions on how much you direct students in embouchure formation, it must be addressed and consistent. The exterior and interior of the embouchure must be addressed and consistent.
- ◇ Concept of Sound and Pitch – Students must have a goal for their tone production and work daily to produce the same sound consistently. (See Handouts p. 4)
- ◇ Fundamental Sounds – Performing on the mouthpiece, mouthpiece and barrel, headjoint, or reed only. Getting the correct sound and pitch here will result in a more consistent and correct tone.
- ◇ Tonal Flexibility Exercises – Being able to manipulate the fundamental sound and the sound of the full instrument will allow the player to **intentionally** produce the best sound. Not locked in tonally. (Pitch Bend Exercises w/ a tuner & Tone Alteration Exercises)



Breathing Tube

Tone Production Exercises – Daily work on tone quality, balance, and intonation

- ◇ Remington Exercises (in multiple registers and keys)
- ◇ Vincent Chicowitz Flow Studies
- ◇ Dynamic Exercises – Intonation must be able to occur at different dynamics and the students need to know how different dynamic levels affect their tone quality and pitch.
- ◇ Chorale & Chordal Exercises

The Tuning Note?

- ◇ Proper intonation is not just listening and adjusting
- ◇ What is the purpose of tuning note?
- ◇ What must happen before the tuning note for that to be affective?

Tuner Use!!!

- ✧ The ability to play “in tune” with a tuner is an important skill for proper intonation.
- ✧ The tuner is a great visual aid that provides valuable information to the player. It is a great tool when used properly.
- ✧ The tuner keeps the individual and group honest and on the same page.
- ✧ **If the only goal of using a tuner is to “get the needle to zero” then it is not true intonation.** Students must learn the proper way to use a tuner or *it could actually hinder their progress and destroy tone quality.*
- ✧ Proper-Tuner-Use Acronym:
 - F**ace – The embouchure must be set correctly and consistently.
 - A**ir – The air-flow must be correct for your instrument - and consistent.
 - T**one Quality – Must produce the best sound possible.
 - T**uner – Once all of the above is in place, check the needle of the tuner for feedback.
- ✧ Use tuners as early as possible (First Year Players!!!!)
- ✧ **Tuning Apps**
 - Tonal Energy
 - Pitch
 - Others



Korg TM-50

Section Tuning / Matching

- ✧ **Peterson TP-3 Pick-up – Individual tuning in ensemble setting**
- ✧ Passing a unison note around the section (4 counts & 8 count overlap exercise)
 - Goal is for every player to have the same:
 - **Tone Quality (same tone production concept)**
 - **Intensity (equal volume player to player)**
 - **Pitch (perform in tune)**
 - To an outside listener it should sound like the same player over and over again.
- ✧ Work to have one instrument sound & no waves!!!
- ✧ For true ensemble intonation, each must be defined and agreed upon by players.



Peterson TP-3

Ear Training Exercises

- ✧ Singing can be very helpful/telling, but it must be a part of regular practice to be truly helpful.
- ✧ This can be tough in middle school. – Alternative is humming
- ✧ Goal of singing is to internalize the pitch.
- ✧ Ear Training does not always infer singing. While singing can help, often in middle school voice changes cause problems with vocal range and pitch reproduction.
- ✧ Listening and commenting on pitch from other sections is a very helpful method of getting students to focus on intonation & tone quality issues.

Never assume a student does not want to learn proper fundamentals. If it helps them avoid frustration, it could be the key to a life-long enjoyment of playing their instrument.

Instrument Knowledge (20%)

*The most effective correction of a tuning problem is the one that occurs **before** the issue happens.*

- ◆ Do your students truly know their instruments?
- ◆ How do professional symphony players play in tune – they just do! ☺
- ◆ Students need a clear understanding of the natural tuning tendencies on **their** instrument

(Instrument Knowledge Cont'd)

- ◆ For example:
 - ◇ Saxophone 4th line D's tend to be sharp
 - ◇ Brass Harmonic Series contains naturally flat and sharp partials
 - ◇ Clarinet throat tones tend to be sharp
- ◆ **Important for teachers to know instrument tendencies.**
- ◆ Students must **experience** and know this information to make the necessary changes.
- ◆ Proper Daily Tuning Techniques - Understanding how to make your instrument the best length (tuning your instrument) (Use FATT and appropriate tuning notes & procedures)
- ◆ Once the instrument is the right length, then you can work on intonation

Pitch Tendency Charts

- ◇ **Each instrument is slightly (or extremely) different**
 - Different brands of instruments have unique tendencies
 - Within the same brand & model variations can occur
 - Age and condition of instrument can affect intonation
 - ◇ Students can work to understand their instruments through this process
 - ◇ *The ultimate goal is for the student to make the intonation adjustments before they even perform their part ☺*
 - ★ Not simply play and listen for tuning but make **intentional “pre”-correction**
 - ◇ **This is separate from fundamentals in that it is more about knowledge than practice**
 - ◇ Once this knowledge is gained, it must be put back into practice in the fundamentals portion
 - ◇ Each student must do this for their instrument to truly know instrument tendencies/corrections
 - ◇ **Great help in ear training (hearing the correct intervals and intonation)**
- ★ Note about instrument quality – The **Pitch Tendency Chart** will make it very clear if the student's instrument is hindering their playing ability. There are some instruments (instrument brands/models) that are so “out of tune” on some notes that no correct adjustment can be made.
- ★ Recommended Instrument Lists can help avoid this.

Students must experience and take ownership over their personal intonation.

Music Preparation (20%)

A student will not think about intonation if they cannot perform their part effectively.

- ◆ While performing fundamentals with pitch tendency knowledge in mind will do a great deal for helping overall intonation, it must be incorporated into music to be truly effective.
- ◆ Several keys for this:
 - ◇ Music Mastery – If music is not fully worked up, a performer's mind cannot truly focus on intonation. Students must have a good working knowledge of their part and ability to perform the work.
 - ◇ Tendency Chart Application – Pitches with major pitch tendency must be marked in the music and addressed. **Marking the music clearly is essential** – *again, professionals mark their music. So, shouldn't middle and high school students?*
 - ◇ Tuner Use at Home – This is essential. Students must be aware of and work on intonation both in rehearsal and during individual practice. Otherwise they could cancel each other out.
- ◆ If music can become “easy” to the player (like a Remington exercise) then they can focus on the tone and tuning adjustments that need to be made consistently.
- ◆ **Slow to Fast Practice** (Even with full band playing)
- ◆ Eventually, students will mark and know their tendencies without instruction from the teacher.

Marking music clearly is essential! – If professional orchestras mark their music, perhaps middle and high school students should as well. ☺

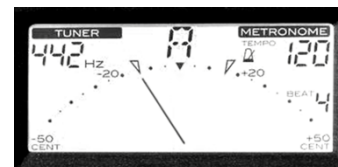
Full Ensemble Tuning (10%)

When all the musicians in the room have ownership over their personal intonation, the ensemble may begin to have higher standards for their intonation than the teacher.

- ◆ Once individual and section fundamentals are on their way toward improvement, full ensemble intonation is possible.
- ◆ Quick Ensemble Tuning – Individual tuners w/ clips passed around and student properly check instrument length.
 - ◇ 1 - 2 tuners per section
 - ◇ Each player performs tuning process (specific tuning notes for their instrument).
 - ◇ Entire process between 2 and 4 minutes (with practice).
- ◆ Teacher becomes a guide for listening and intonation
- ◆ Set-up Balance Responsibilities
 - ◇ High Voices (Oboe balance to Flute, Flute to Clarinet, Clarinet to Trumpet)
 - ◇ Mid Voices (Alto/Tenor Sax to Horn – sometimes Trumpet to Horn)
 - ◇ Low Voices (Low Reeds to Trombones, Trombones to Euphoniums, Euphoniums to Tubas)
- ◆ Concert Pitches Around the Room
 - ◇ Same ideas as passing a pitch around the section, but passing from section to section.
 - ◇ Each section should sound like one instrument.
- ◆ Within the context of music, you will use the same balance points as above but according to melody, counter melody, harmony, etc.
- ◆ Melodic Tuning
 - ◇ Use of Drones – playing a melodic line with the tonic and dominant of the key on a drone will help hear any variation in pitch cause by technical demands.
 - ◇ Pitch Tendency Chart will help with instrument tendency clashes (i.e. flat Trumpet 4th line D clashing with a sharp Flute high C – yikes!!!)
- ◆ Chordal Tuning
 - ◇ Harmony Director – great tool for allowing students to hear proper chordal intonation.
 - ◇ Just Intonation – Major and Minor 3rds need slight alterations to make chords truly in tune
 - Harmony Director can demonstrate this beautifully.
 - Many tuners have notches for lowered or raised 3rd of a chord so students can practice making these corrections in individual practice.
 - Altered (Resonance) fingerings might be necessary to make these pitch alterations more naturally & consistently.
 - ◇ Chordal Exercises – Exercises based on the music being performed that allows students to know what part of the chord they are and how to make proper adjustment.



Yamaha HD-200



**Lowered third marking
on Korg Tuners**

Listening – Fine-Tuning/Troubleshooting (10%)

With all of these tools in the hands of the students, the term “fine-tuning” can truly be applied.

- ◆ Finally we are back to listening. But now the listening has some teeth to it. Instead of the vague “listen and match” we are now saying, **“listen and use your knowledge to correct.”**
- ◆ Now students have a checklist of things they can go through to make corrections.
 - ✓ Awareness – Where they focused on the issue before it happened?
 - ✓ Individual Fundamental – Was there a break down in fundamentals? What was it?
 - ✓ Pitch Tendency – Does this note tend to be sharp/flat?
 - ✓ Musical Issue – Do I really know this part?
 - ✓ Ensemble Issue – Do I know what part of the chord I am? Is that the issue?
- ◆ This is more intelligent listening that can truly lead to proper corrections.
- ◆ This process also gives the students many specific things to listen to.
- ◆ **Trouble-Shooting on the fly!!!**
- ◆ Now listening can be the true refining element we all hope it can be. 😊

As with most educational ideas, this is the culmination of the influence of many wonderful teachers over the years, combined with a lot of thoughtful follow through and implementation.

Good Reference and Method Books for Intonation:

Improving Intonation in Band and Orchestra Performance

by Robert J. Garofalo (*Meredith Music*)

Essential Musicianship for Band

by Eddie Green, John Benzer, and David Bertman (*Hal Leonard*)

Tuning for Wind Instruments: A Roadmap to Successful Intonation

by Shelley Jagow (*Meredith Music*)