

HABITS OF A SUCCESSFUL SCHOOL ORCHESTRA

TOOLS AND STRATEGIES FOR TAKING YOUR MIDDLE AND
HIGH SCHOOL ORCHESTRAS TO THE NEXT LEVEL

Using Fundamentals Time to Improve Your Orchestra's
Tone, Articulation, Intonation, Rhythm and Reading Ability

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A-ha Moments

- Rule of Sevens
- Inversion Principal

Why Fundamentals Time?

Identify three pieces that you would like to teach your students if their technique was a little better.

1. _____
2. _____
3. _____

Think specifically about the pieces you identified above, and describe the skills that your students would need to learn better before they could perform these pieces well enough to get a superior at concert festival.

Key Concept #1: The Need for Fundamentals Time

If Orchestra Directors want to teach great orchestral repertoire to their students—and have their students play this music well—they must devote part of their rehearsal to teaching students the fundamental and advancing skills these pieces require.

Fundamentals Time is the classroom rehearsal time that you devote to improving student skills and technique. We spend time at the beginning of rehearsals, but also time embedded within the rehearsal to teach and reinforce good technique that improves student performance.

What will you take away from this session?

Today, we will identify tools and strategies for teaching and improving intonation, rhythmic literacy, and orchestral tone quality during fundamentals time.

Part 1: Teaching Resonant Intonation

Why upper-level middle and high school string students play out of tune

1. Their instruments are out of tune
 - a. Students must learn to tune themselves; insist on quality instruments
 - b. Students must learn to listen and use a “tuning tone”
 - c. Cross-tuning is required
2. Poor hand position and instrument position increase the difficulty of an instrument that is already challenging to play in tune
 - a. Increase strategies: Constantly look for new, better ways to teach technique; keep adding to your bag of tricks
 - b. Decrease tolerance of poor position (zero-tolerance is a good goal to have)
3. Finger patterns don't agree with the key signature
 - a. Student fingers are not familiar or comfortable with the finger patterns; solution: spend more time on finger patterns—including cello extensions—to increase muscle memory and aural awareness and skills to differentiate between the patterns
 - b. Students are not cognitively aware (or paying attention to) to the key/key signature; solution: spend more time studying 4th and 7th scale degrees in each key
4. Students lack fine tuning skills and experience
 - a. Sing
 - b. Tuning Canon and Chords
 - c. Chorales
5. Range—higher registers pose new challenges with the above mentioned skills
 - a. Shifting
 - b. Scales, Arpeggios, and Thirds
 - c. More study of Higher Positions

1. Tuning Our Instruments

Teach Students to Tune Themselves

Teach “Tuning Tone”: Using a soft, transparent tone allows students to hear the correct pitch while they tune their strings.

Cross Tuning For Classes Comfortable Tuning Themselves

1. The leader plays the A; the students listen for 5 seconds, and then tune their A string at the tip of the bow. Once the A is in tune, the leader turns off the A and instructs the class to “tune up” the rest of their strings. The class tunes their instruments quietly using the tip of the bow and stops playing when they are finished.

2. Even accomplished high school orchestras are still a little out of tune at this point, and the student leader should then take the class through the Cross-Tuning procedure.
 - A. Everyone plays their A string again to make sure it is perfect.
 - B. Violin/bass play their A strings while violas and cellos tune their D strings.
 - C. Players “switch.” Violas/cellos play their A while violins/basses tune their D.
 - D. Violins/basses continue to play their D; violas and cellos cross over and tune their G string.
 - E. Players “switch;” viola/cellos play their D while violin/basses tune their G string.
 - F. Violins and basses continue to play their G string; violas and cellos cross over and fine tune their C string.
 - G. Finally, violas and cellos play their A string, while the violins tune their E string. Then, violas and cellos drop out, and basses tune their E string to the violins. Basses may take few extra seconds to double check their tuning using harmonics.

2. Instrument Left Hand Position

Allocate fundamentals time at the beginning of rehearsals for reviewing hand, body and instrument position and technique.

- Have upper instruments stand up; it’s easier for them to play, and for you to see and correct problems.
- Get off the podium and move around the room.
- Use calisthenics and maintain zero tolerance for position problems and flaws— Don’t be an enabler by allowing poor positions.

3. Finger Patterns, then Key Signature Agreement

Use exercises that focus on specific patterns to develop muscle memory.

Basics: Highs, Lows, Extensions

16. Forward Extension Exercises *

17. Scale and Arpeggio Forward Extensions

18. Extension Etude

Tetrachord Etude

The purpose of the Tetrachord Etude is to efficiently focus on finger patterns.

- It can be used as a daily warm-up or in a rehearsal to review the problematic finger pattern and transfer the pattern to the music.
- The etude is to be learned and performed on one string. Cellos shift between two positions in a way that is common for them; basses will shift through three positions and use bass pivot fingerings.

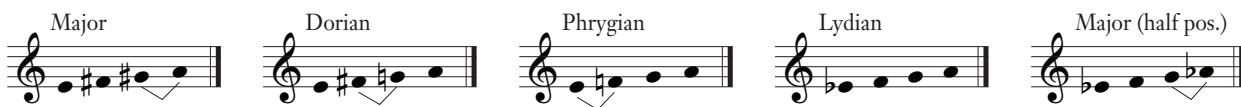
19. Tetrachord Etude

Tuning Notes (Dorian Tetrachord) Etude



After learning the Etude with the Dorian tetrachord above, play it with one of the other tetrachords below.

Tetrachords:



Tetrachord Etude Strategies

1. Set the tuner to a low E pedal tone and begin with the Dorian pattern written below.
2. Students should learn one measure at a time while listening and adjusting their fingertips to finely tune the notes in the pattern.
3. After students can play the Tetrachord Etude with the dorian pattern, teach them the other patterns. A “pedal C” on the tuner works better for Phrygian and Lydian patterns.
4. After all the patterns have been learned, have students perform them one after another, to help them hear and understand the differences.
5. To practice changing modes in quick succession, omit measure one (tuning notes), and perform only measures two and three after each repeat.
6. Have students perform the etude on other strings or in higher positions to perfect the intonation and tone quality of all other notes on the instrument.

Teaching Velocity

Use velocity exercises develop finger speed and accuracy while maintaining a relaxed left hand. This Velocity Etude also improves bow management and tone production.

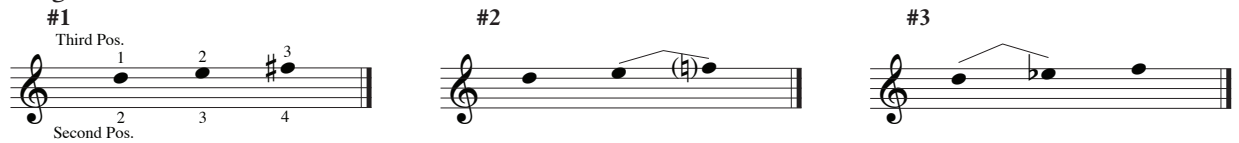
- Once the Major pattern is learned, teach the Minor and Phrygian patterns.
- Perform the etude with all three patterns in succession as a group without stopping. This is Variation A; the other variations can be taught the same way.
- Find the students' maximum relaxed tempo; write down this "speed limit" and make it a goal to extend this limit during the course of the year. Always check for relaxed left hands (especially thumbs.) Relaxation is a key component of these exercises, as tension slows fingers down.

48. Velocity Etude in Higher Positions

Perform as written first, and then perform with the different finger patterns (#2. F \sharp and #3. E \flat) shown below.



Finger Positions



Velocity Etude Variations



Additional Finger Pattern Studies

A *chromatic* scale is made entirely of half steps.

185. Two Octave Chromatic C Scale



Mixolydian and Blues Scales

186. B \flat Mixolydian

Blues Scale and Arpeggio



Finger Patterns and Key Signature Agreement

- Which notes do string players miss most? What are we doing about it?
- Most pitch problems in school orchestras occur on the 4th and 7th scale degrees where keys and finger patterns change first.

Use exercises that raise student awareness about the 4th and 7th scale degrees

A. B. C.

15. Dominant Etude

Teaching and Reviewing Keys and Key Signature Awareness

Use exercises that focus on the 4th and 7th scale degrees of the key you want to teach

80. Tuning Canon

78. Dominant Arpeggio

Tuning Canons and Dominant Arpeggios give students the opportunity to hear the leading tones in a given key; the better they learn the sound and “feel” of the key (and leading tones in that key) the better they will identify and correct the problem notes in their music.

- We use tuning canons and dominant arpeggios to teach any and all 12 major and 12 minor keys/modes
- Slow practice, identifying 4th and 7th scale degrees; listen and adjust fingertips
- The tuning canon is a good way to begin class; as a warm up, students can focus on performing with good pitch and good tone
- Reviewing a dominant arpeggio right before rehearsing a piece saves time and improves intonation significantly.

Major Scales, Arpeggios, and Thirds

C Major

65. Tuning Canon

1. 2. 3. 4.

66. Tuning Chords

div.

67. Scales and Arpeggios - One Octave

Two Octaves

Three Octaves

68. Dominant Arpeggio

69. Thirds - Lower Octave

Upper Octave

4. Give students exercises and opportunities to learn how to finely tune their fingers

Tuning Canons, Chords and **Chorales** teach students to listen, blend, and finely tune the notes and chords in each key. For overall balance, the lower instruments should be louder than the upper instruments, and no one should play so loudly that they cannot blend and finely tune their notes with the players around them.

120. Tuning Canon

1. 2. 3. 4.

121. Tuning Chords

194. Chorale #3: Pavane from Capriol Suite ♩ = 88

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201. Chorale #10: Chorale from Emperor Concerto, Movt. 2 ♩ = 42

Adagio un poco mosso

5. Teaching Range

Shifting

Teach students about the different kinds of shifts: Both Same and Different Finger Shifts

26. Shifting to a Different Finger

♦ The diamond is the destination of the shifting finger; it is a silent shifting note that should be hidden, not heard.



Use shifting exercises that develop skills throughout the entire range of the instrument. These exercises also help students develop well-balanced instrument positions to shift easily and correctly.



40. E♭ Major Scale and Arpeggio - on One String



Use different etudes to teach different kinds of shifting patterns

29. Etude in E Minor Mark the silent shifts with a dot or a diamond.



45. Etude in G Major (Finger Replacement)



Higher Positions

Take time to teach students how to play in higher positions. “Just figure it out yourself” and “go ask your private teacher” are *not* teaching strategies.

Upper Register and Thumb Position

To reach higher positions, bring the elbow and arm around the instrument, and the thumb around the neck.

52. Upper Register Patterns

Musical score for exercise 52, "Upper Register Patterns", for Violin (Vln.), Viola (Vla.), Violoncello (Vc.), and Bass. The score is in 4/4 time and D major. A dashed line labeled "8va" is positioned above the first two staves. The Violin and Viola parts feature a melodic line starting on E4, moving up stepwise to G5, then descending. The Violoncello and Bass parts provide a rhythmic accompaniment with quarter notes and rests, including fingering numbers (1, 2, 3) and accents.

54. D Major Scale and Arpeggio

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Musical score for exercise 54, "D Major Scale and Arpeggio", for Violin (Vln.), Viola (Vla.), Violoncello (Vc.), and Bass. The score is in 4/4 time and D major. A dashed line labeled "8va" is positioned above the first two staves. The Violin and Viola parts play the D major scale (D4 to D5) and arpeggios with various fingering techniques, including natural harmonics (x4) and bends (-1, -2, -3). The Violoncello and Bass parts play the D major scale and arpeggios with specific fingering (1, 2, 3, 1, 2, 3, 2, 1) and accents.

(194. Chorale #3: Pavane from Capriol Suite - continued)

Musical score for exercise 194, "Chorale #3: Pavane from Capriol Suite - continued", for Violin (Vln.), Viola (Vla.), Violoncello (Vc.), and Bass. The score is in 4/4 time and D minor. It begins at measure 17. The Violin and Viola parts play a melodic line with slurs and accents. The Violoncello and Bass parts provide a harmonic accompaniment with chords and moving lines.

Scales and Arpeggios

The purpose of studying scales and arpeggios is to improve intonation and tone by learning patterns and technique required in different keys across the range of the instrument.

Introducing New Scales and Arpeggios to students of different levels

Students of different levels can learn and perform scales at the same time. Those performing more octaves should begin their scale first, as shown below.

The image shows a musical score for a 4/4 scale in G major, presented in three staves. The top staff is labeled '3-Octave' and shows a scale starting on G4 and ending on G6. The middle staff is labeled '2-Octave' and shows a scale starting on G4 and ending on G5. The bottom staff is labeled '1-Octave' and shows a scale starting on G4 and ending on G5. Each staff begins with a rest for the duration of the other staves' scales, and then enters at the appropriate starting point. The key signature has one sharp (F#) and the time signature is 4/4.

Using Differentiated Instruction to teach students of different levels at the same time:

1. Set the classroom tuner to drone the tonic note of the key.
2. Have everyone play the one-octave scale and arpeggio to get familiar with the new tonality and patterns.
3. Next, more advanced students can move on to the two-octave scale; one-octave students stay on the one-octave scale. When teaching multiple levels, the students performing more octaves should begin their scale first.
4. Next, three-octave students can move to the three-octave scale, while the other students stay on the number of octaves appropriate for their level. Again, students performing more octaves begin their scale first

Differentiating Instruction to Accommodate Instrument Differences

The difficulty of a scale can vary depending on the instrument. In a high school class, for example, violin students will likely be ready to learn a three-octave B-flat scale long before their lower string peers. We recommend differentiating instruction (below) to make scale levels appropriate for everyone.

The image shows a musical score for a 4/4 B-flat scale, presented in three staves. The top staff is labeled 'Violin' and shows a scale starting on B-flat4 and ending on B-flat6. The middle staff is labeled 'Viola' and shows a scale starting on B-flat4 and ending on B-flat5. The bottom staff is labeled 'Cello/Double Bass' and shows a scale starting on B-flat4 and ending on B-flat5. Each staff begins with a rest for the duration of the other staves' scales, and then enters at the appropriate starting point. The key signature has two flats (B-flat and E-flat) and the time signature is 4/4.

Part 2: Rhythmic Literacy and Sight Reading

The goal of teaching rhythm is to develop independent string musicians who can decipher, recall and perform written rhythms without the help of a teacher. We need to be careful how we respond to the most frequently asked question in music education: “How does this go?” If we are not careful, teachers can unintentionally create students that become rhythmically dependent upon the teacher or other players.

All rhythm has two components: the pulse and the rhythm that goes over the pulse. The teacher must develop both components for a student to properly understand and perform rhythms. Pulse should always be taught and established first; students need to learn that there can be a pulse without a rhythm, but there is no such thing as good rhythm without a pulse.

213a. and b.

Musical notation for exercise 213a and b, 4/4 time signature. The exercise consists of two staves. The top staff contains a sequence of notes and rests: quarter notes, eighth notes, and eighth rests. The bottom staff contains a corresponding sequence of notes and rests, including dotted quarter notes and eighth notes.

For additional practice with ties, dotted quarter notes and eighth rest patterns, go to Part VIII Sight Reading Exercises 270–283.

221a. and b.

Musical notation for exercise 221a and b, 6/8 time signature. The exercise consists of two staves. The top staff contains a sequence of notes and rests: eighth notes, quarter notes, and eighth notes. The bottom staff contains a corresponding sequence of notes and rests, including dotted quarter notes and eighth notes.

Additional Sight Reading Exercises

266.

Musical notation for exercise 266, 3/4 time signature. The exercise consists of a single staff with notes and rests. Dynamics markings include *mf*, *p*, *f*, and *p*. There are also accents and slurs.

286.

Musical notation for exercise 286, 2/4 time signature. The exercise consists of a single staff with notes and rests. Dynamics markings include *mf*, *f*, and *mp*. There are also accents and slurs.

Getting Started

1. Establish and model the tempo and counting style students are to use during the rhythmic example. Students are to count the pulse (not the rhythm of the music) out loud. After they demonstrate their ability to keep a steady pulse counting, they can begin performing the rhythm of the music with their bow hand while continuing to count *out loud*. Count using the smallest denomination used in the music; for example:
 - a. If the example is mostly quarters and half notes, count quarter notes (1, 2, 3, 4.)
 - b. If the example has dotted quarters and eighth-notes, count the pulse and division (1 & 2 & 3 & 4 &)
 - c. Dotted eighths and sixteenth-notes: 1 e & a, 2 e & a, 3 e & a, 4 e & a
2. While counting out loud, students perform the rhythm exercises with their bow.
 - a. Air bow first. Students can get a preliminary *feel* of the rhythm as they count the pulse out loud. Longer notes should be bowed with a slow, sustained motion. The Teacher can check to make sure students are counting and watch the bows to assess who is struggling most.
 - b. After students demonstrate success with air bowing, have them count and bow the rhythm on an open string. Watch students closely to make sure they continue counting as they play; the students who don't count will not know when to come in after long notes and rests.
 - c. When they are ready, have students look at the line with the pitches. Remind them to look at the key signature, and have them mentally practice (silently air bowing and putting fingers on the string) before the class plays together. This important step gives the non-readers with good ears a chance to practice reading without having the opportunity to listen to the person next to them.
 - d. Instruct students to perform the notes and rhythms on the second line with their bows. If they seem to need it, students may take the intermediate step of counting and playing pizzicato before playing the notes arco.

Counting Out Loud

To genuinely understand a rhythm pattern, students must perform the rhythm while simultaneously keeping a *consistent pulse* somewhere else in their body. The biggest benefit to this strategy is that students are counting while they perform through long or dotted notes and rests, which is the most important time to count. Students will find it easier to “count in their head” (and they will beg their teachers to let them do this) because in truth, they temporarily stop counting during the toughest rhythms; instead, they should count out loud, especially when the rhythms are difficult.

Modeling is encouraged, but avoid teaching rhythm through repetition. Hammering a rhythm over and over may clean up rhythmic inaccuracies, but the students are only learning to copy the teacher, and not learning to count and independently perform the rhythm. Each time a rhythm or exercise is repeated, the students with good ears and poor reading ability have less need to read. So, avoid repetition, and remember that the best time to teach rhythmic literacy is every time students are learning new exercises or music.

Additional Teaching Strategies

Teaching rhythm and notation

As a general rule, teach students how a rhythm sounds first, and then teach how it looks. Students will learn how to count and recall rhythms within a pulse in the next section.

1. Use 2/4 to teach quarters and half notes; use 3/4 to teach dotted halves, and 4/4 to teach whole notes. Instruct students play quarter notes with their bow on an open string while they count to two, three, or four with and without the metronome depending on the meter the teacher has chosen. Have students play half notes, dotted-half, and whole notes with their bows on an open string while counting to two, three, or four respectively. Demonstrate the rhythms taught in this section on an instrument, and ask students to write down the rhythms they hear.
2. Use a syllable system (like 1 & 2 & for 8th notes and 1 e & a 2 e & a for 16th notes) to teach eighth and sixteenth notes with and without a metronome. Students can march or clap the pulse while counting 8th and 16th notes to reinforce the connection between the two. Have students play 8th or 16th notes with their bows on an open string while counting (and/or marching) to two, three, or four with a consistent pulse. Demonstrate 8th and 16th notes in different time signatures, and ask students to write down the rhythms they hear.
3. Syncopation, dotted and tied rhythms are much easier to learn after the quarters, 8th and 16th notes addressed in the previous section. In this category of rhythm, the dot, tie, or syncopation holds the note over a beat. This is more easily explained visually in terms of 8th and 16th notes that are contained in each note of the rhythm. When students begin playing these rhythms over a pulse in the next section, it is imperative that the students count through the rhythm to keep track of the beat that is contained in the dot, tie, or syncopation.

Alternate Clefs

Take time to teach students how to read alternate clefs. “Just figure it out yourself” and “go ask your private teacher” are *not* teaching strategies.

Alternate Clefs

Violinists use ottava (8va) and lower strings use alternate clefs to reduce the number of ledger lines the performer reads when the music moves into higher registers. Viola players must learn to read treble clef. Cello and double bass players must learn to read tenor and treble clefs. Advanced violinists should also learn alto clef, so they can double on viola if needed.

	C	D	E	F	G	A	B	C
Violin/Viola								
Treble Clef								
Alto Clef								
Cello/Double Bass								
Bass Clef								
Tenor Clef								
Treble Clef								

54. D Major Scale and Arpeggio

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50. Scotland's Burning

Musical score for 'Scotland's Burning' in 4/4 time. The score is arranged for Violin (Vln.), Viola (Vla.), Violoncello (Vc.), and Bass. The key signature has one sharp (F#) and the time signature is 4/4. The piece consists of 12 measures. The Violin part features a melody with eighth and quarter notes. The Viola part provides harmonic support with eighth notes. The Violoncello part has a bass line with eighth notes and includes fingering numbers (1, 3, 4) and a 'III' marking. The Bass part includes chord diagrams for D and G, and fingering numbers (1, 3, 4) and 'III' markings.

61. Arirang

Musical score for 'Arirang' in 3/4 time. The score is arranged for Violin (Vln.), Viola (Vla.), Violoncello (Vc.), and Bass. The key signature has one sharp (F#) and the time signature is 3/4. The piece consists of 12 measures. The Violin part features a melody with eighth and quarter notes. The Viola part provides harmonic support with eighth notes. The Violoncello part has a bass line with eighth notes and includes fingering numbers (1, 3) and a '3' marking. The Bass part includes fingering numbers (1, 3) and a '3' marking.

(200. Chorale #9: In the Bleak Midwinter - continued)

Musical score for 'Chorale #9: In the Bleak Midwinter - continued' in 3/4 time. The score is arranged for Violin 1 (Vln. 1), Violin 2 (Vln. 2), Viola (Vla.), Violoncello (Vc.), and Bass. The key signature has one flat (Bb) and the time signature is 3/4. The piece starts at measure 25 and consists of 12 measures. The Violin 1 part features a melody with eighth and quarter notes. The Violin 2 part provides harmonic support with quarter notes. The Viola part has a bass line with quarter notes. The Violoncello part has a bass line with quarter notes. The Bass part has a bass line with quarter notes.

Part 3. Tone and Articulation

Use Open Strings to teach basic tone production.

Start with a relaxed bow hold. Use calisthenics to improve bow holds and correct problems.

Talk about the basic components of tone production and incorporate these terms into every rehearsal.

Even Tone - Frog to Tip

With a flawless bow hold, play the open string without counting or keeping time; pay attention to the bow's contact point, angle, weight, and speed.

Teacher Tips:

The purpose of this exercise is to study the following basic bowing components without thinking about fingers or counting.

- **Bow Hold:** A “flawless” bow hold has no visible problems or unnecessary tension; finger placement is correct; thumb and pinky are curved; knuckles are fluid.
- **Contact Point:** The bow is correctly placed on the string between the bridge and fingerboard
- **Bow Angle:** The bow is perpendicular to the string and the stick is directly over the hair or rotated slightly toward the scroll of the instrument.
- **Bow Placement:** The correct part of the bow for producing the desired articulation—frog, balance point, middle, tip—is over the string.
- **Bow weight and bow speed** are balanced and produce an excellent tone that projects well.

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Teacher Tips

- Students are to practice using the entire bow with a constant bow speed. Bow angles should be perpendicular to the string.
- Dig in more at the tip and less at the frog to compensate for the bow's tendency to be light at the tip.
- Move the bow closer to the bridge when digging in more, and closer to the fingerboard when digging in less.

Bowing Variations

Here are a number of tools and strategies we use to efficiently and effectively teach tone, articulation, and rhythm combinations. We use the following sequence most often:

1. Select a rhythm or bowing that the students need to learn or review, possibly from the menu of options below, or make up your own.
2. Establish a tempo from a concert piece with the rhythms the students are playing.
3. Use the introduction to model the rhythms or articulations students are to learn.
4. Students play the Theme immediately after the teacher, demonstrating the rhythm or articulation just modeled by the teacher or student leader.
5. Practice with and without the classroom metronome.

Introduction (teacher) Theme (student)

Basic Bow Strokes

5a. 5b. 5c. 5d. Middle to upper half

Dotted Rhythms and Hooked Bows

7a. Tip V Frog 7b. Tip Frog 7c. V V 7d. V V V V 7e. 10g. 10h.

Things to Remember

- Model how students are to sound
- Assess student performance. Look for correct bow hold, direction, part of the bow, good weight and speed to project well, and correct articulation

Additional Bowing Variation Strategies

Students can perform each variation in unison or in canon. They can also overlap and perform multiple variations simultaneously to develop deeper rhythmic understanding and ensemble skills.

1. **Perform the variation in unison.** The best strategy for using the Bowing Variations is the no-talking “Call and Response” method. Demonstrate in the introduction how the students should look and sound; then, without a pause, the students play the variation over the Theme, demonstrate the rhythm and articulation modeled by the teacher. While students play, the teacher watches and listens to make sure that the students are performing
 - a. With a flawless bow hold, curved pinky and thumb, and relaxed knuckles
 - b. In the correct part of the bow with the correct bow angle and contact point
 - c. With enough bow speed and weight to produce a good tone that projects well
 - d. With correct rhythms and a consistent pulse

If the students need to play it again, play the Introduction again as soon as the students finish the Theme, modeling again what the students need to improve. If the students are ready for a different rhythm or bowing, introduce a new variation right after students finish the theme. This Call and Response method is most efficient when done with as little talking as possible.

2. **Perform the variation as a canon** in two, three, and four parts. Divide the class into multiple sections; when the first section gets to the third pitch, the next section begins.
3. **Overlap and perform complementary variations at the same time.** Without the introduction, have one group of students perform a variation with a dotted rhythm or syncopated pattern while a second group performs a variation with consistent 8th or 16th notes; then have groups switch parts. Both groups should listen to each other to learn and perform dotted rhythms or syncopations more accurately. In addition to overlapping variations with complementary rhythms, competing rhythms—like duple against triple—can be overlapped.
4. **Practice transitioning from one rhythm to another** by having students play the introduction only. In concert music, problems frequently arise in the transitions between different rhythms (like going from 8th to 16th notes) or articulations (going on and off the string). To teach challenging transitions, have students play the Introduction with one rhythm/articulation, and then repeat the Intro with the other rhythm/articulation. Practice going back and forth between variations with a metronome. Three or more variations can also be practiced in a series.

Modeling. It is very important for the teacher or student leader to model the rhythm and articulation. It helps the students understand how they are to look and sound. It also helps the teacher make sure the tempo is correct, since the action of the bow can change dramatically with different tempos.

Slurring Variations can be used to teach slurs and detaché (including sautillé)

- Use a metronome: Start with a slow tempo and gradually increase speed.
- Use more weight on the slurs, and more bow on separate notes.

11a.

11c.

Velocity Etude for Bow Management

While we use the velocity etude primarily for developing left hand speed, it has also been a good tool for teaching students to manage their bow speed. Students must pay attention to contact point, bow weight and speed to produce a good tone from the first note to the last.

20. Velocity Etude

Perform as written first, and then perform with the different finger patterns (#2. F[♯] and #3. E^b) shown below.

Chorales are great tools for teaching tone, balance, blend, and phrasing. This chorale also teaches bow management, requiring students to pay attention to contact point and bow speed.

198. Chorale #7: Fantasia in G ♩ = 76

What to do with Fundamentals Time in an Orchestra Rehearsal

Think broadly and identify the skills that your students need to develop. These could be skills that the students were lacking when they came into your program from another teacher. They could be skills that would have made your students perform better at last year's concert festival.

Key Concept #2: Identify the “components of string playing” students need to learn during fundamentals time and organize them in a sequential and meaningful format.

Musical Components

Basic Elements	Range and Organization	Ensemble Concepts	Creativity: Musical Choice
Tone	Color Palette	Blend	Choice of timbre & vibrato speed
Intonation (Sharp/flat)	Register and Key	Tuning Intervals/Chords	Melodic/Harmonic Improv
Pulse & Rhythm	Tempo and Meter	“Ensemble” Agreement	Rhythmic Improv; Tempo Choice
Articulation	Attacks & Releases	Style: Consistency	Style: Fluency (Baroque to Jazz)
Volume	Dynamics	Balance	Phrasing

Technical Components

General Technique

- Stretching and Breathing
- Balance: Standing and Sitting
- Spine, Shoulders, Arms

Left Hand

- Position
- Basic Motion
- Finger Patterns
- Fingertip Adjustment
- Velocity, Shifting, Vibrato

Right Hand

- Position and Basic Motion
- Tone Production
- Advancing Articulations
- Advancing Rhythms

Cognitive Components: Literacy, Culture, History, Occupational Awareness

Key Concept #3. Use a sequential system of warm-up exercises that develop the musical and technical skills required in the orchestral repertoire the students are to perform.

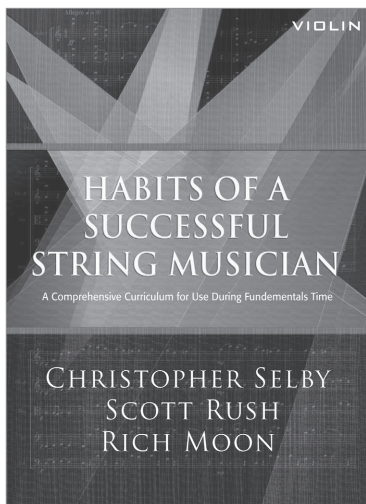
- Bowing exercises improve tone, articulation, and specific rhythm patterns
- Finger pattern exercises improve intonation, intervals, velocity
- Shifting and Scale exercises improve intonation, tone and shifting throughout the entire range of the instrument
- Tuning Canons, Chords, and Chorales teach fine tuning, balance and blend
- Sequenced Rhythm and Sight Reading Examples improve sight reading ability

Key Concept #4: Fundamentals Time should include sequential and comprehensive sight reading

- Introduce your desired counting system
- Use rhythm charts reinforced with pitches
- Sightread notes and rhythms with an emphasis on timing
- Sightread at a tempo that insures a successful performance of everything that is on the page
- Sightread with an emphasis on the "components of playing"
- Musical sight reading must be developed over time with a logical sequence in place

Key Concept #5: Fundamentals must ultimately lead to great music making

- Cross the threshold from the "components of playing" to "thoughts about phrasing and musicianship"
- Sing and use solfege to combat "musical wandering"
- Include music-making exercises as part of the curriculum
- Get off of the podium and let them play
- Strive for an artistic performance



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Christopher Selby is the National Board Certified Orchestra Director at the School of the Arts High School in Charleston, SC. He is a graduate of the Hartt School of Music and holds master's and doctorate degrees from the University of South Carolina. He has taught orchestra for over 20 years and served 11 years as the Richland School District's Orchestra Coordinator. Ensembles under his direction have consistently received superior ratings and placed 1st in the 2012 ASTA National Orchestra Festival. Selby is the recipient of the 2009 SC ASTA Orchestra of the Year Award and is a past president of the SC Music Association. He is current chair of ASTA Committee on School Orchestras and Strings, and chair-elect for NAFME National Council for Orchestral Education. Christopher Selby is an active clinician, speaker, adjudicator, and conductor through the U.S. He is a co-author of *Habits of a Successful String Musician* (GIA) and the 2010 SC Performance Standards for Instrumental Music.