Habits of a Successful String 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

Christopher R. Selby

What is the difference between school orchestra and youth orchestra?

In youth orchestra, the individualized instruction is left, almost entirely, to the private teacher.

> **Key Concept #1:** In School Orchestra, *all students*—not just the ones taking lessons—deserve sequential, comprehensive technical instruction that enables them to learn the musical and performance skills that upper-level orchestral works require, so that every student *can make great music*.

When should we review and teach advancing string skills to upper-level students?

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.

CHALLENGES: Teaching advancing string technique in an orchestra rehearsal has its challenges.

1. Most of us were never taught how to embed technical instruction into a rehearsal.
2. Our programs are so individualized that most sequential method books don't seem to fit what our students need to learn.

What will you take away from this session?

Today, we will identify tools and strategies that can be used during fundamentals time for resolving and overcoming several of the most pressing and entrenched problems our upper orchestras face. We will identify the challenges that cause our students to struggle with intonation, tone quality and rhythmic literacy, and we will look at exercises and strategies for correcting these problems.

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 4^{th} and 7^{th} 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

Think for a moment: Why do students play out of tune? What can you do to correct that?

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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.

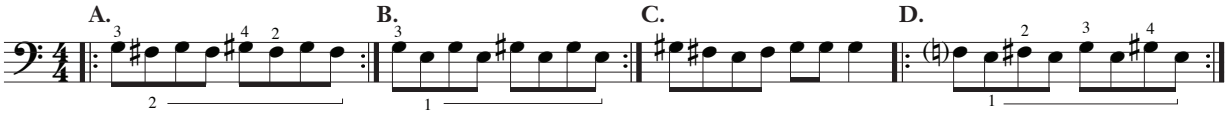
- Have upper instruments stand up; it's easier for them to play, and for you to see and correct problems.
- Get off the podium and move around the room.
- Use calisthenics and maintain zero tolerance for position problems and flaws—Don't be an enabler by allowing poor positions.

3. Finger Patterns, then Key Signature Agreement

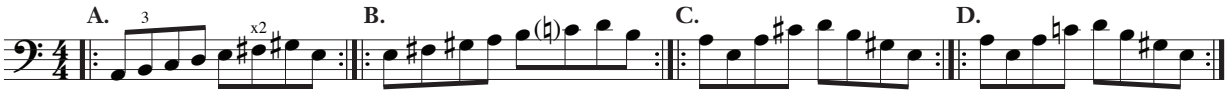
Use exercises that focus on specific patterns to develop muscle memory.

Basics: Highs, Lows, Extensions

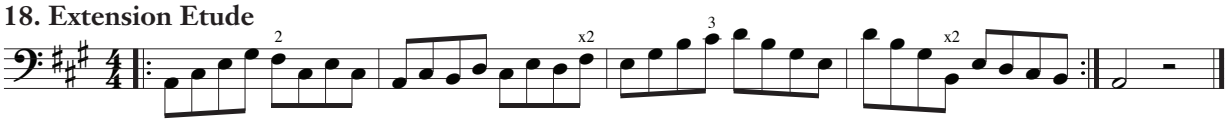
16. Forward Extension Exercises *



17. Scale and Arpeggio Forward Extensions



18. Extension Etude



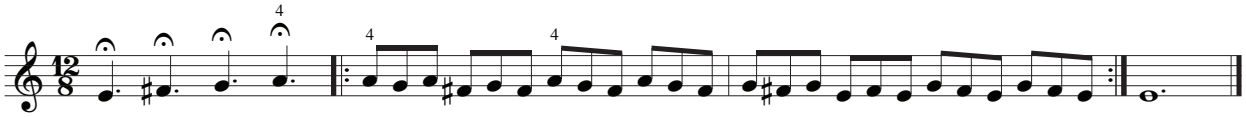
Tetrachord Etude

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.

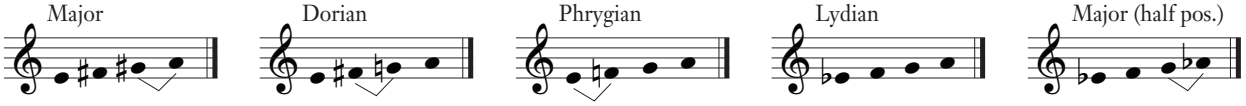
19. Tetrachord Etude

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.

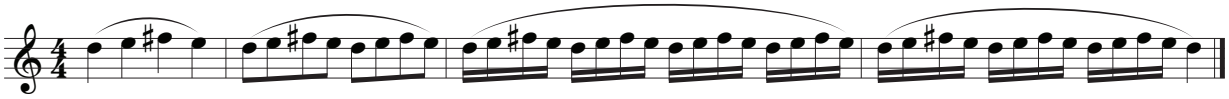
Teaching Velocity

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

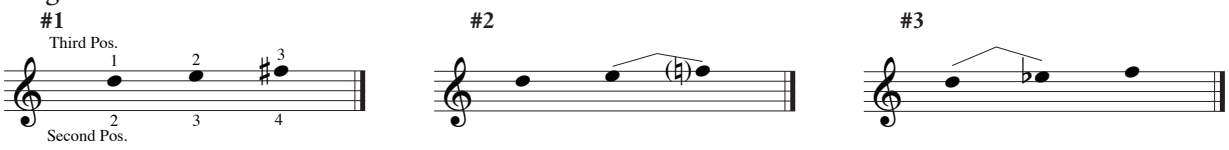
- Once the Major pattern is learned, teach the Minor and Phrygian patterns.
- Perform the etude with all three patterns in succession as a group without stopping. This is Variation A; the other variations can be taught the same way.
- Find the students' maximum relaxed tempo; write down this "speed limit" 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

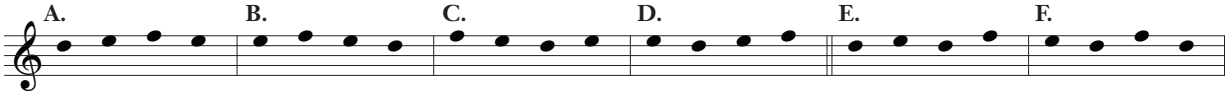
Perform as written first, and then perform with the different finger patterns (#2. F♮ and #3. E♭) shown below.



Finger Positions



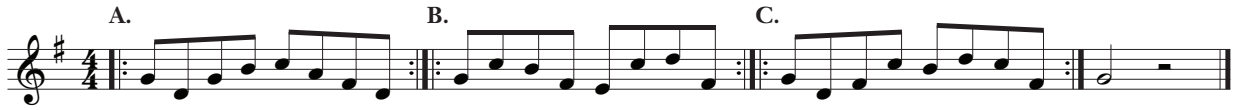
Velocity Etude Variations

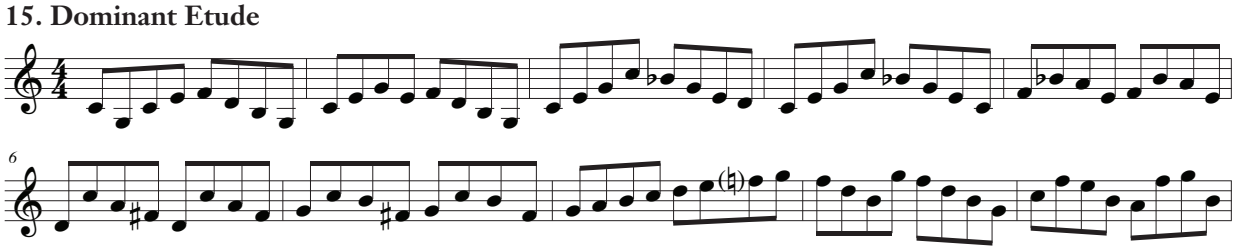


Finger Patterns and Key Signature Agreement

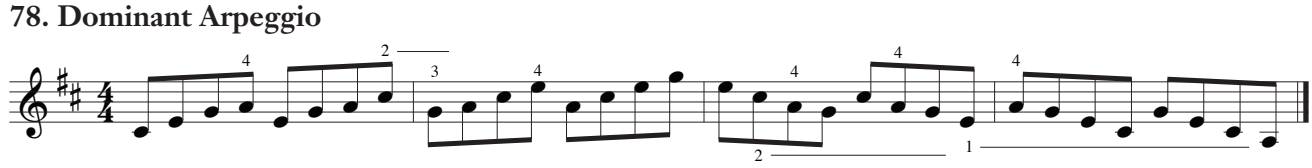
- Which notes do string players miss most? What are we doing about it?
- Most pitch problems in school orchestras occur on the 4th and 7th scale degrees where keys and finger patterns change first.

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





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

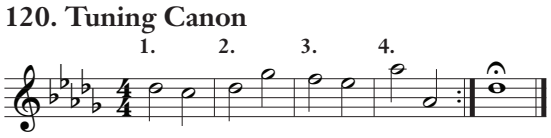


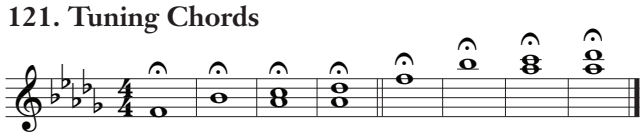
Dominant Arpeggios give students the opportunity to hear the leading tones in a given key; the better they learn the sound and "feel" of the key (and leading tones in that key) the better they will identify and correct the problem notes in their music.

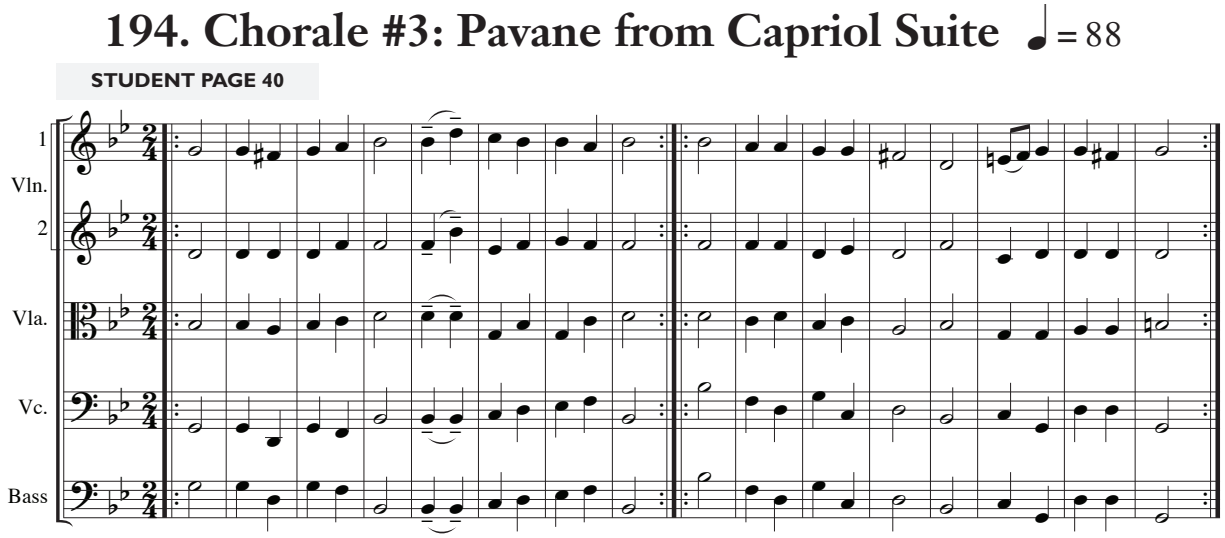
- We use dominant arpeggios to teach any and all 12 major and 12 minor keys/modes
- Slow practice, identifying 4th and 7th scale degrees; listen and adjust fingertips
- Reviewing a dominant arpeggio right before rehearsing a piece saves time and improves intonation significantly.

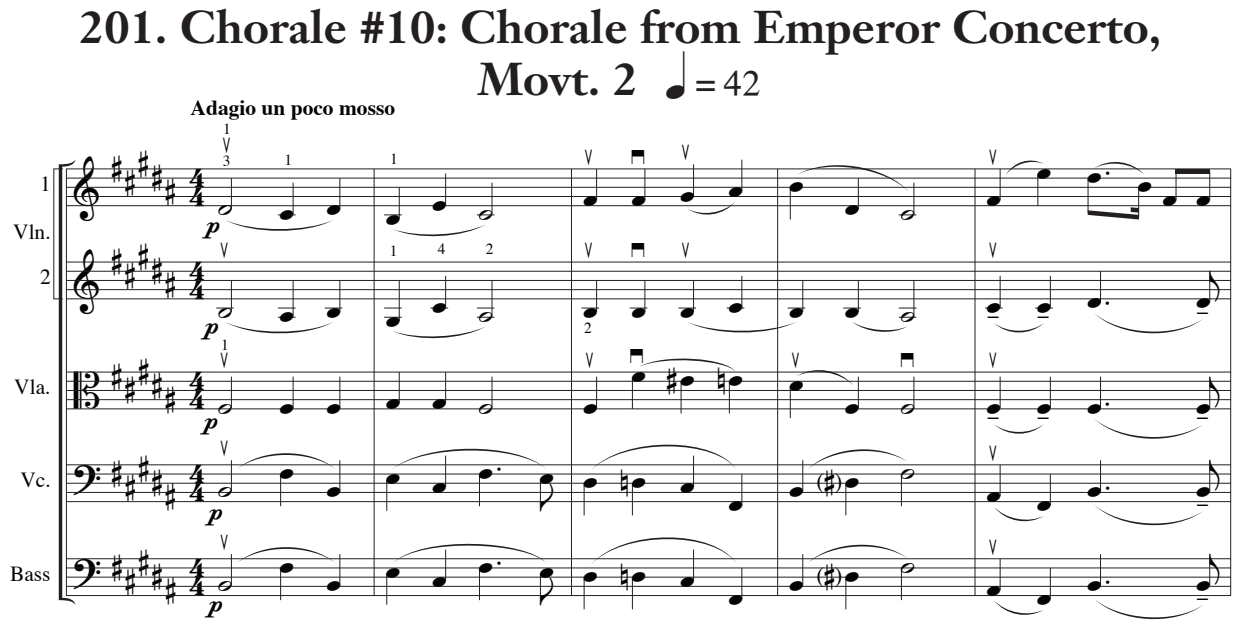
4. Give students exercises and opportunities to learn how to finely tune their fingers

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. 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





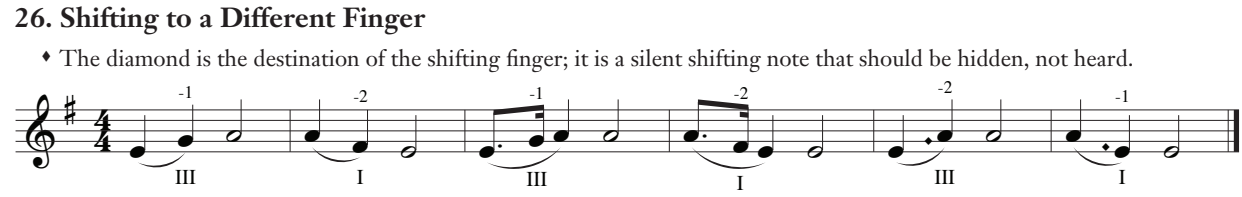




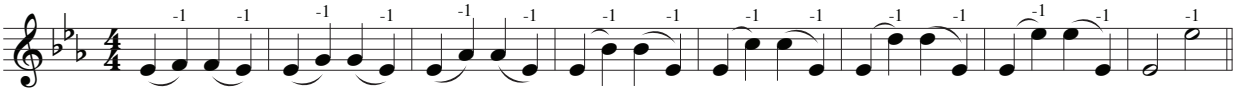
5. Teaching Range through Shifting, Units on Upper Positions and Alternate Clefs, and Scales

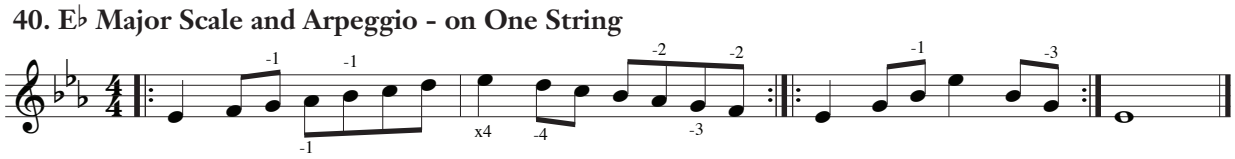
Shifting

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

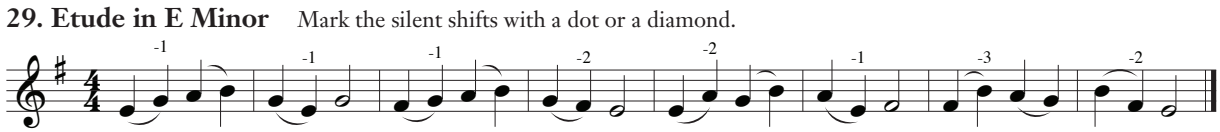


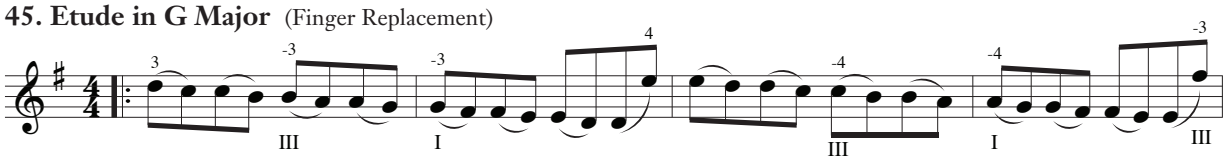
Use shifting exercises that develop skills throughout the entire range of the instrument. These exercises also help students develop well-balanced instrument positions to shift easily and correctly.





Use different etudes to teach different kinds of shifting patterns





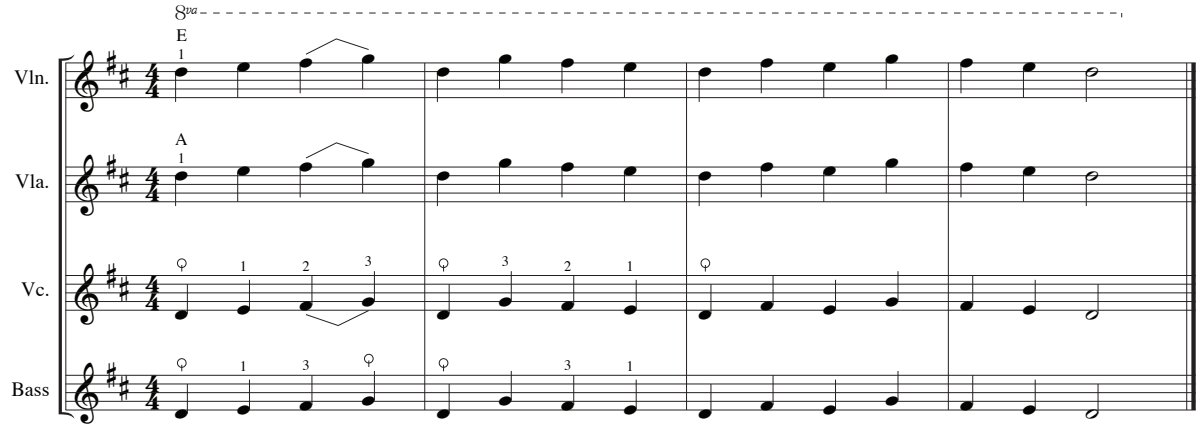
Higher Positions

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.

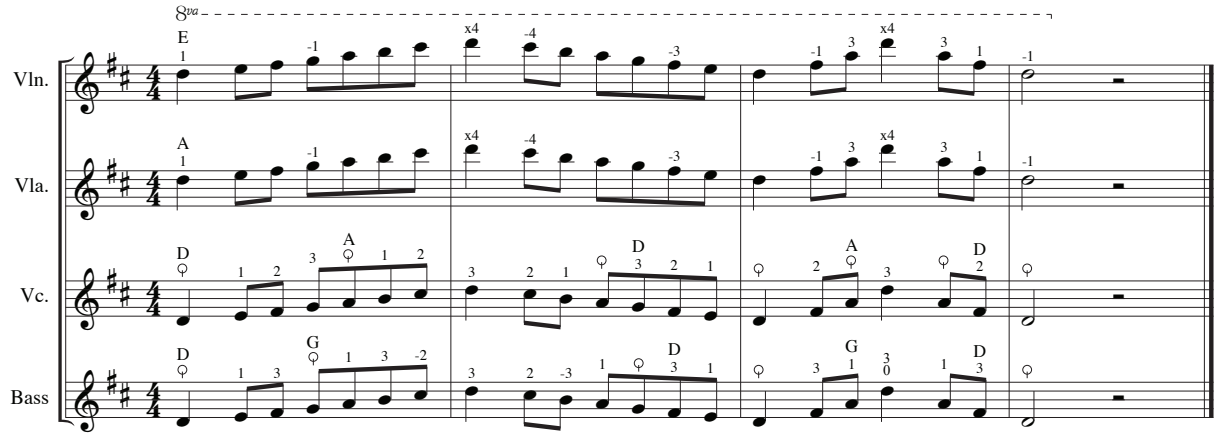
Upper Register and Thumb Position

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

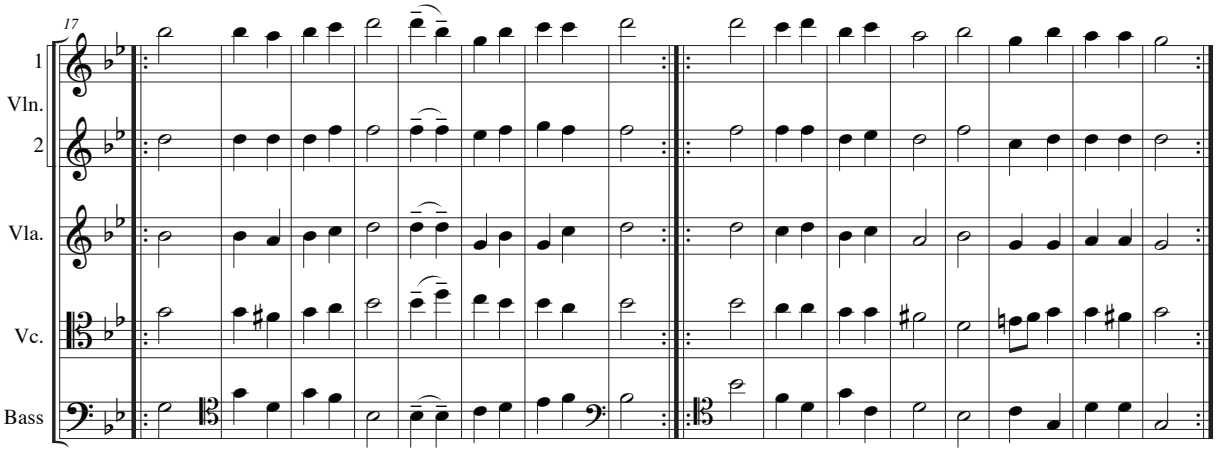
52. Upper Register Patterns



54. D Major Scale and Arpeggio STUDENT PAGE 12



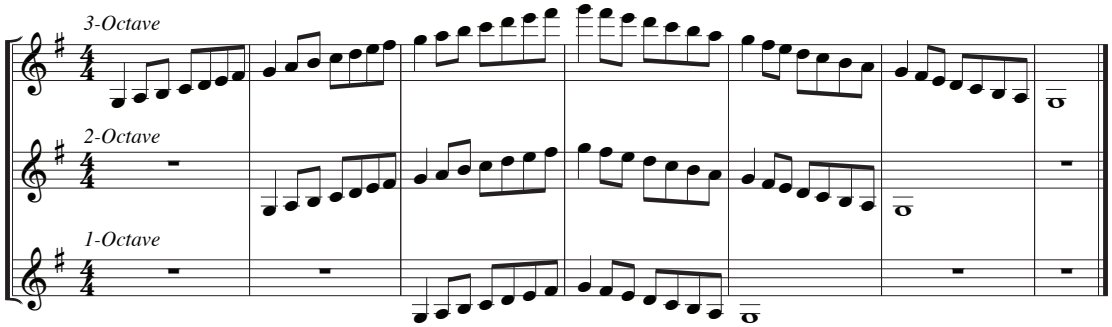
(194. Chorale #3: Pavane from Capriol Suite - continued)



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 entire range of the instrument.

Introducing New Scales and Arpeggios to students of different levels

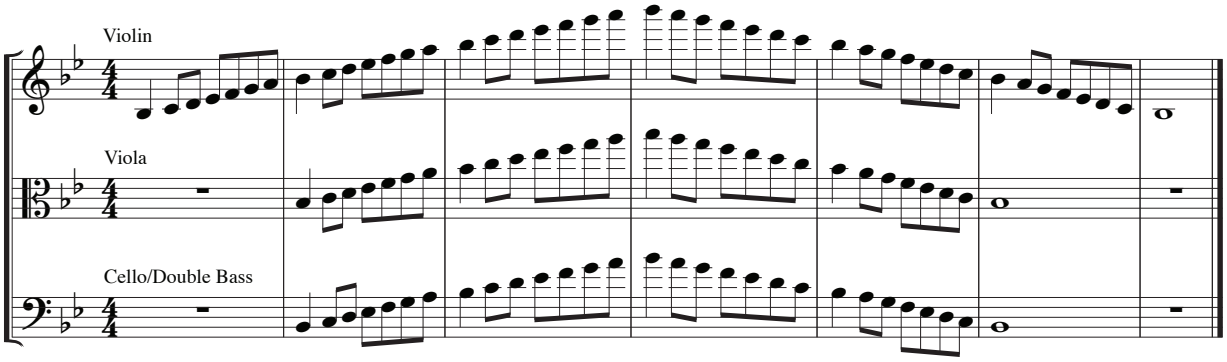
Students of different levels can learn and perform scales at the same time. Those performing more octaves should begin their scale first, as shown below.



Use 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

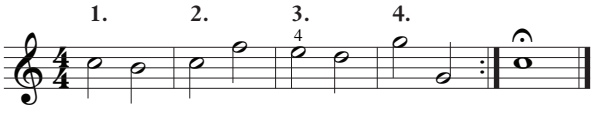
Differentiate Instruction to Accommodate Instrument Differences
The difficulty of a scale can vary depending on the instrument. In a high school class, for example, violin students will likely be ready to learn a three-octave B-flat scale long before their lower string peers. We recommend differentiating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



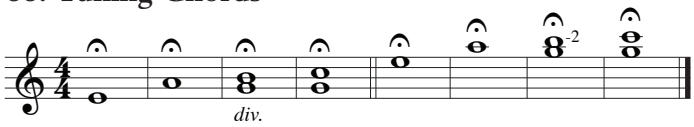
Major Scales, Arpeggios, and Thirds

C Major

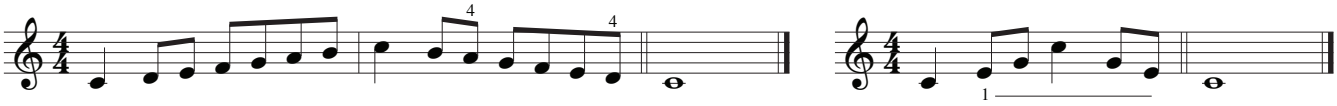
65. Tuning Canon



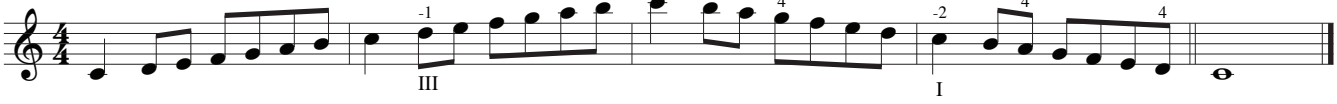
66. Tuning Chords



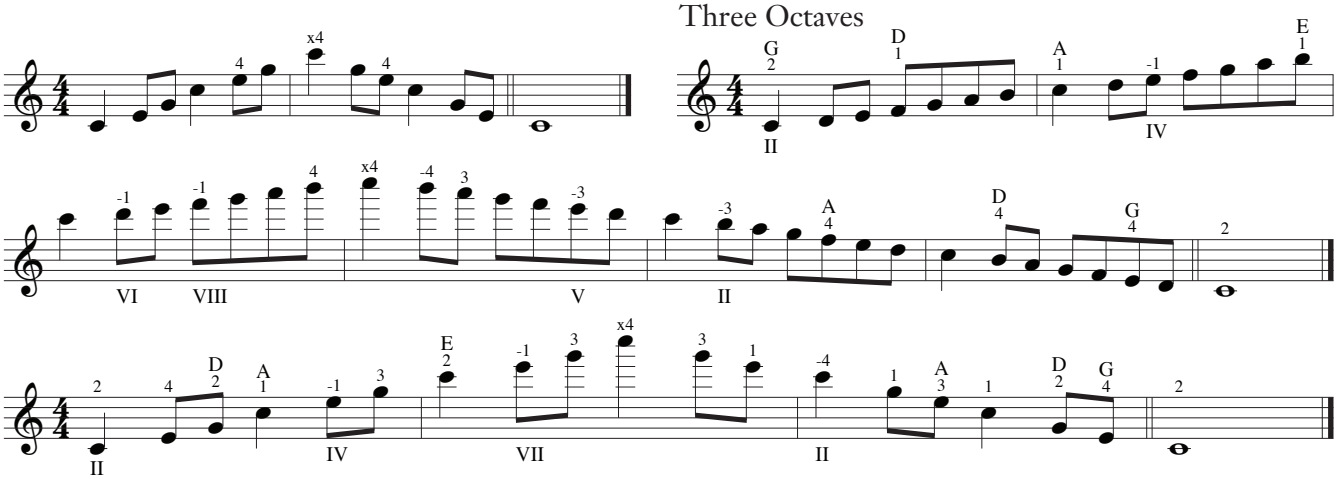
67. Scales and Arpeggios - One Octave



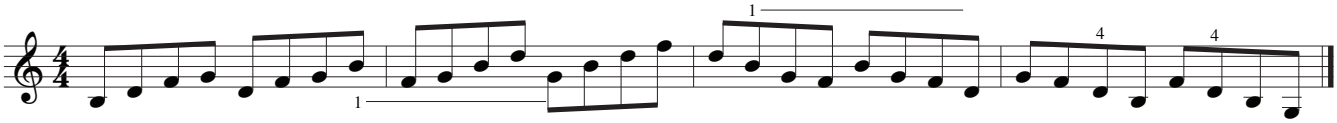
Two Octaves



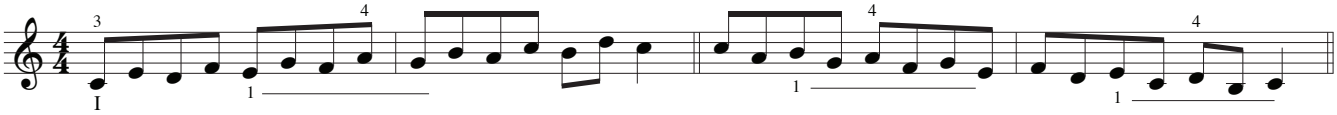
Three Octaves



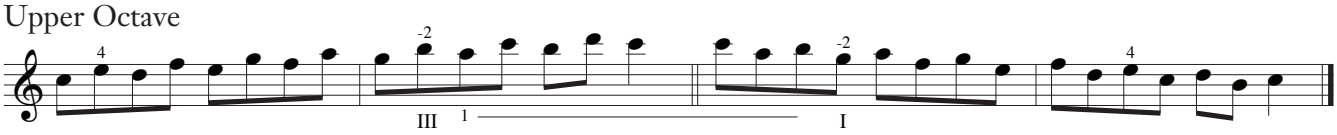
68. Dominant Arpeggio



69. Thirds - Lower Octave



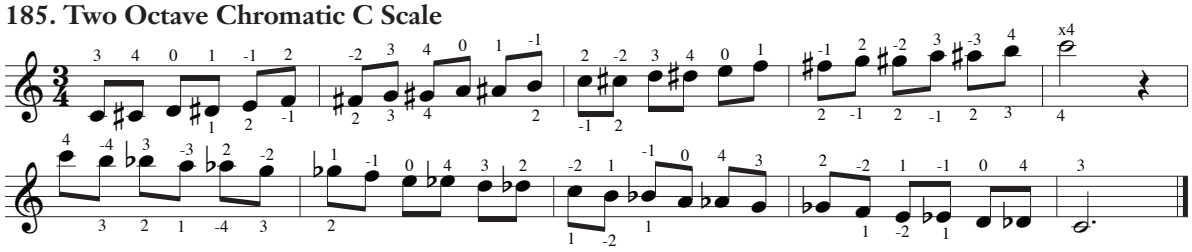
Upper Octave



Additional Scale Studies

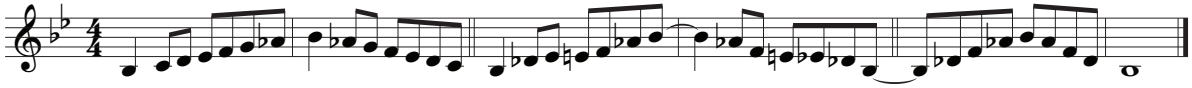
A *chromatic* scale is made entirely of half steps.

185. Two Octave Chromatic C Scale



Mixolydian and Blues Scales

186. B♭ Mixolydian **Blues Scale and Arpeggio**



Part 2. Tone and Articulation

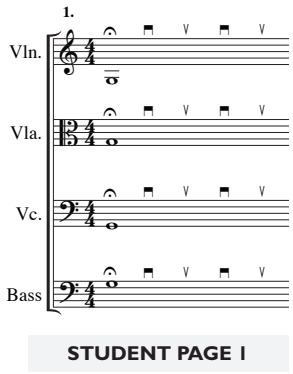
Use Open Strings to teach basic tone production.
Start with a relaxed bow hold. Use calisthenics to improve bow holds and correct problems. Talk about the basic components of tone production and incorporate these terms into every rehearsal.

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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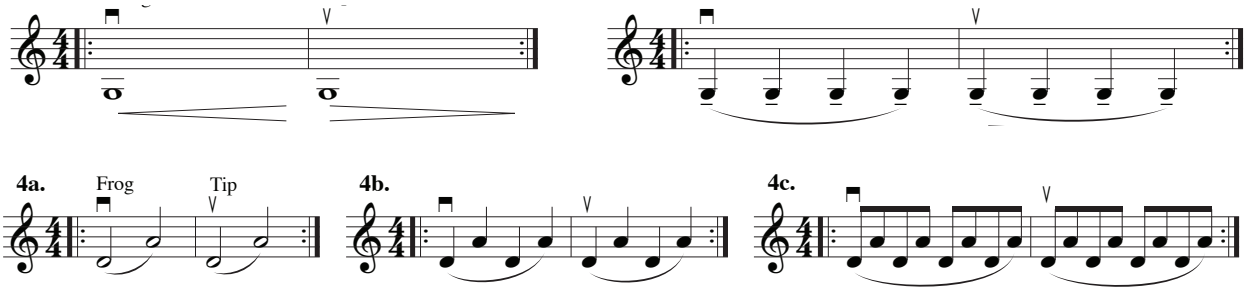


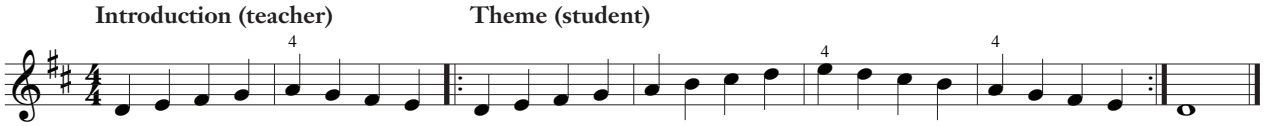
Teacher Tips

- 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 finger board when digging in less.

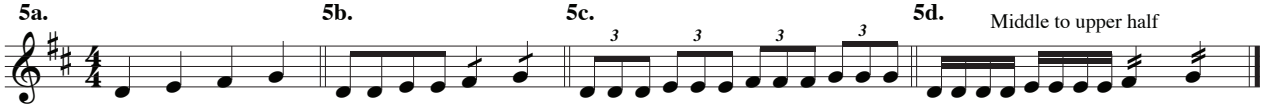
Bowing Variations

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:

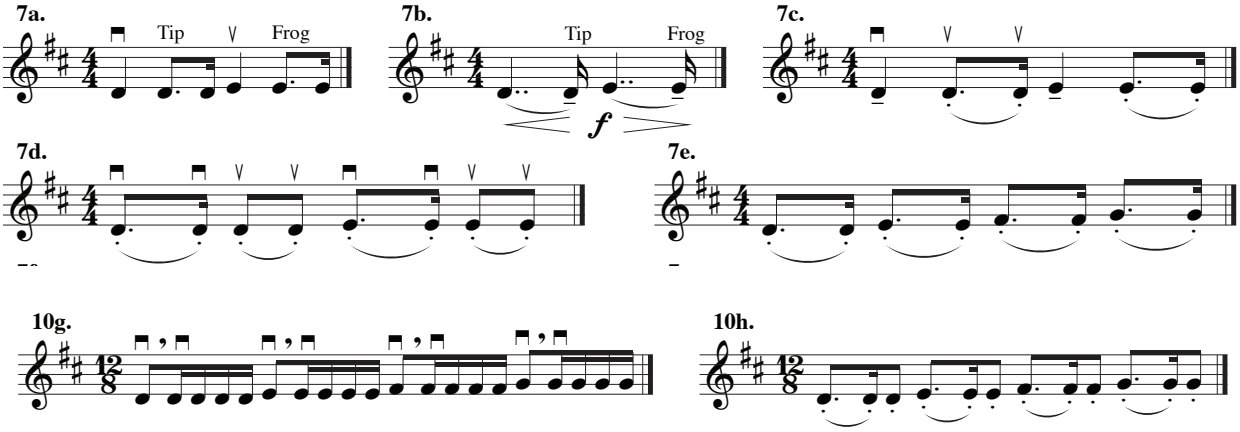
1. Select a rhythm or bowing that the students need to learn or review, possibly from the menu of options below, or make up your own.
2. Establish a tempo from a concert piece with the rhythms the students are playing.
3. Use the introduction to model the rhythms or articulations students are to learn.
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.



Basic Bow Strokes



Dotted Rhythms and Hooked Bows

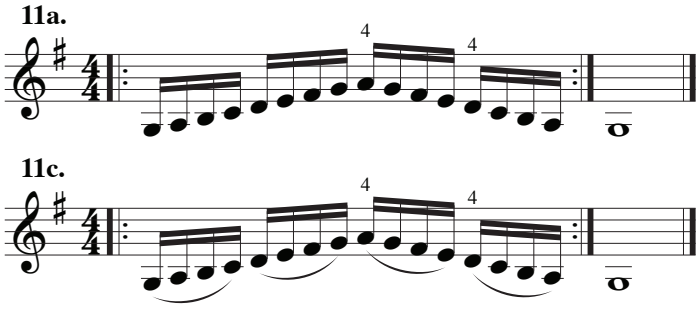


Things to Remember

- 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

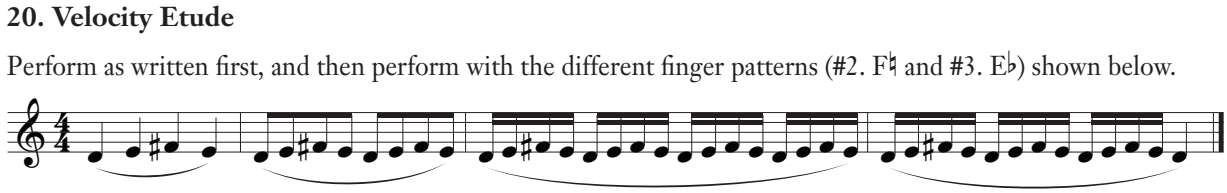
Slurring Variations can be used to teach slurs and detaché (including sautillé)

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

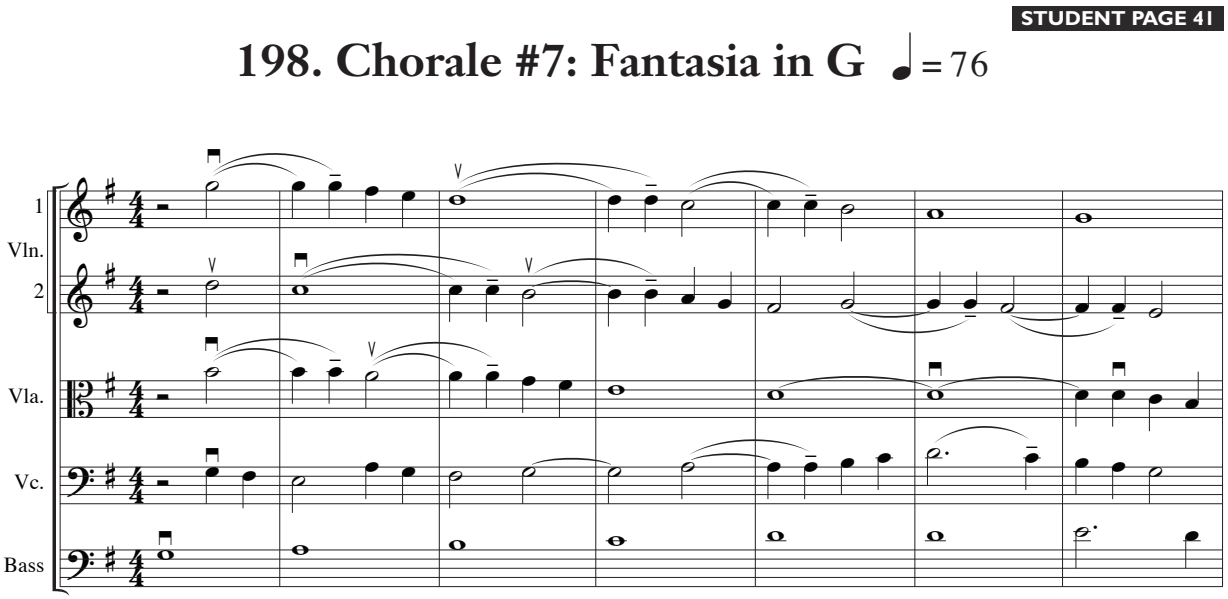


Velocity Etude for Bow Management

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.



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.

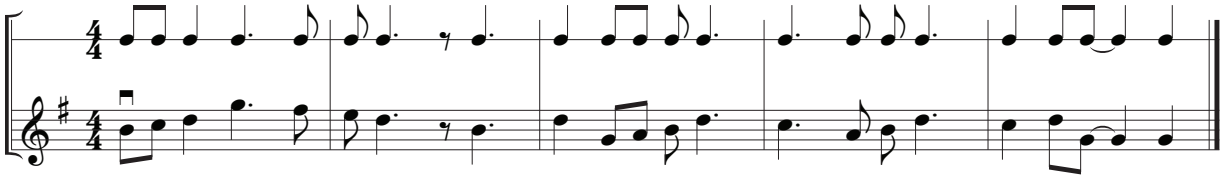


Part 3: Rhythmic Literacy and Sight Reading

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.

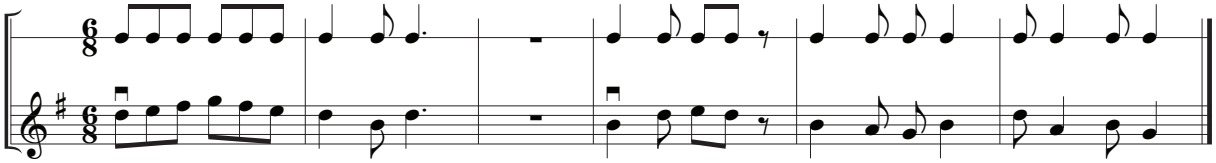
All rhythm has two components: the pulse and the rhythm that goes over the pulse. The teacher must develop both components for a student to properly understand and perform rhythms. Pulse should always be taught and established first; students need to learn that there can be a pulse without a rhythm,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

213a. and b.



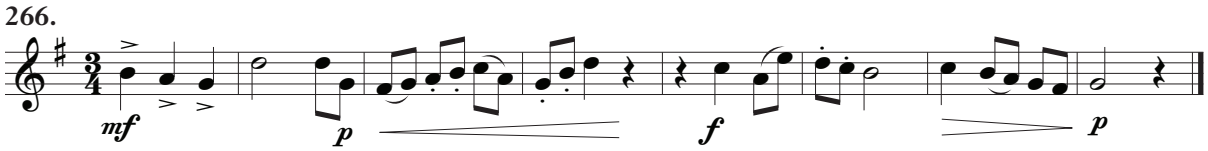
For additional practice with ties, dotted quarter notes and eighth rest patterns, go to Part VIII Sight Reading Exercises 270–283.

221a. and b.



Additional Sight Reading Exercises

266.



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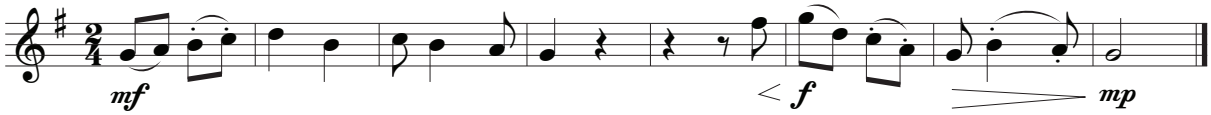


Getting Started

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.

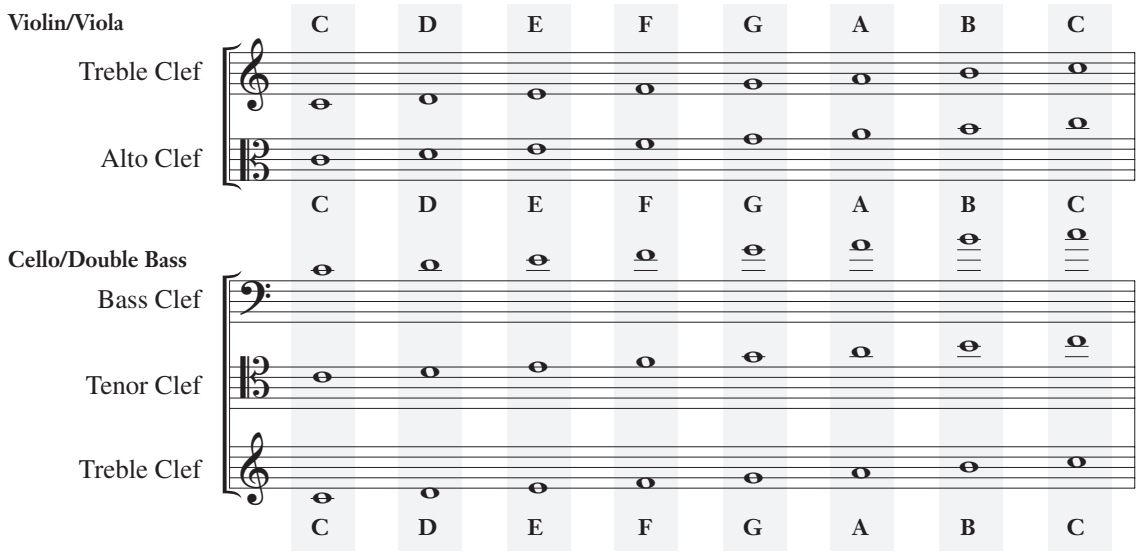
Modeling is encouraged, but avoid teaching rhythm through repetition. Hammering a rhythm over and over may clean up rhythmic inaccuracies, but the students are only learning to copy the teacher, and not learning to count and independently perform the rhythm. Each time a rhythm or exercise is repeated, 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.

Take Students Through a Series of Rhythm Exercises that are sequenced in increasing difficulty. Also, practice musical sight reading exercises that gradually challenge students to play harder rhythms, in more advanced keys, and in higher positions and alternate clefs.

A. Quarter Notes and Rests; Eighth Notes
B. Ties, Dotted Quarters, and Eighth Rests
C. Syncopation
D. Intermediate Triple Meter
E. Triplets
F. Simple Sixteenth Notes
G. Dotted Eighth Notes and Sixteenth Rests
H. Cut Time
J. Advanced Triple Meter
K. Irregular Meter

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.



54. D Major Scale and Arpeggio

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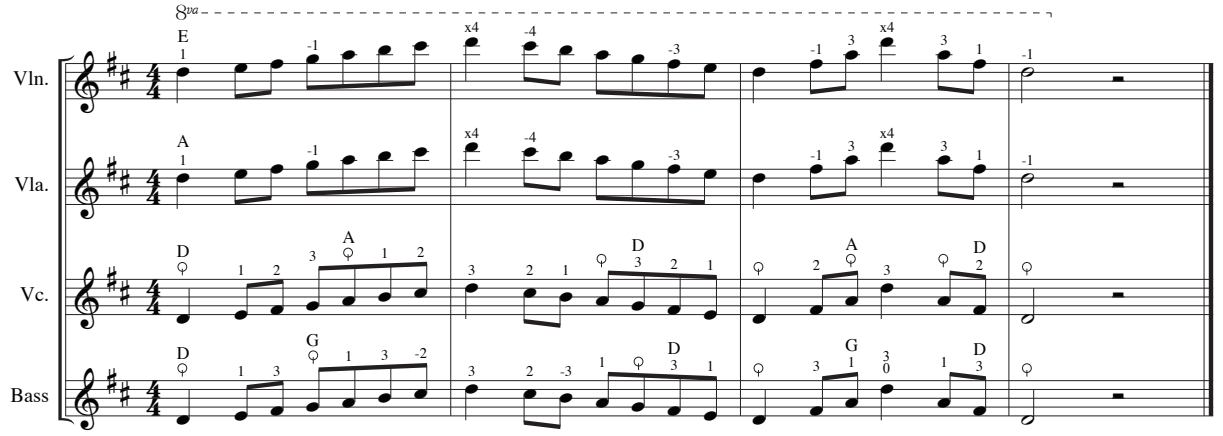

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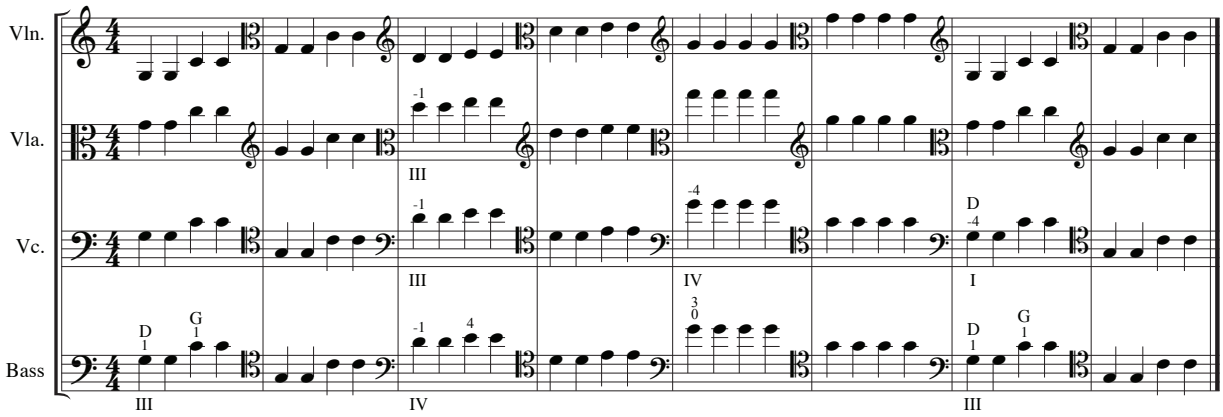
50. Scotland's Burning



61. Arirang

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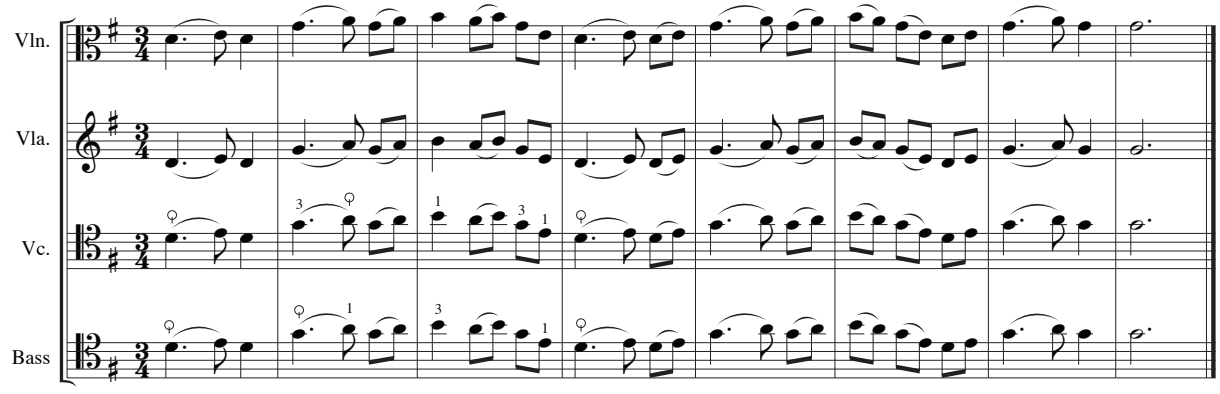

Final Thoughts

1. Make Time—fundamentals time—for teaching technique to your upper level students.
    a. Fundamentals Time (25-50%)
    b. Concert Music Rehearsal (50-75%)

2. Determine the skills that students at each level should have, and plan how you will go about teaching them these skills.
    a. Determine the skills for each level of orchestra you teach.
    b. Organize these skills into units.
        i. Left Hand Unit: Finger Patterns, Shifting, Upper Positions
        ii. Tone and Articulation: Bow hand, basic tone projection, spiccato, etc
        iii. Scales and Arpeggios
        iv. Theory and Creativity
        v. Concert Music
3. Create a Long Range plan that identifies the skills that will be addressed in each quarter.

Quarter 1 Overview

1. **Tone and Articulation:**
    a. Review Right Hand Technique (1 week)
    b. Basic Tone Production Review; Terms and Open String Exercises 1-4, (1 week)
    c. Basic Strokes, Full tone: Bowing Variations 5 A-N (2 weeks)
        i. Detache, Staccato, Legato, Marcato. Slur (11a - 11d)
    d. Full Bow Skills, Tip to Frog with good bow angle: Exercises: 6-G (1 week)
        i. Portato/loure, up-bow staccato, Slur (11e – 11h)
    e. Dotted Rhythms and Syncopated Patterns (3 week)
    f. Chorales 1 & 2
2. **Left Hand Skills:**
    a. Left Hand Position: Let Go of the Instrument
    b. Extensions—Backward and Forward
    c. Tetrachord Etude
    d. Velocity Etude and Trills
3. **Scales, Arpeggios and Thirds:** C Major & G Major
4. **Creativity:** The Cover Project
5. **Literacy**
    a. **Writing Familiar Melodies: Twinkle and Mary**
    b. **Rhythmic Literacy** Quarter Notes and Rests; Ties, Dotted Quarters and 8^{th} rests
        i. Exercises: Charts A and B from Habits Book Sections 7 and 8

Notes

Notes

Christopher Selby ***is an active clinician, speaker, adjudicator and conductor, and is the co-author of*** **Habits of a Successful String Musician,** ***a string method book for upper level orchestras published by GIA. Dr. Selby currently directs the high school string and symphony orchestras at the School of the Arts in Charleston, SC. He earned his Masters and Doctorate of Musical Arts degrees in Orchestral Conducting from the University of South Carolina, and a Music Education degree from the Hartt School of Music in Connecticut. He earned his National Board Certification in the area of Early Adolescent and Young Adult Music in 2002 and 2012.***

Before moving to Charleston, Dr. Selby taught orchestra in traditional elementary, middle and high schools for eighteen years. He was the Orchestra Coordinator in Richland School District Two and had been teaching at Spring Valley High School since 2005. Under his direction, his orchestras consistently receive superior ratings playing grade VI music, and the school's small, diverse Chamber Orchestra won 1st Place in the competitive high school string orchestra division of the 2012 National Orchestra Festival, at the national conference of the American String Teachers Association (ASTA).

From 2012-2014, he served as the Chair of the Committee on School Orchestras and Strings in the American String Teacher Association (ASTA). Dr. Selby has presented numerous sessions at state and national conferences and gave a keynote address on Encouraging Creativity in Secondary Performing Ensembles at the 2012 SCMEA state conference. He co-authored the 2010 SC Performance Standards for Instrumental Music, and published three articles in ASTA's national publication, *American String Teacher*. A recipient of the 2009 SC ASTA Orchestra Teacher of the Year, Dr. Selby has conducted a SC All-State Orchestra and numerous regional honor orchestras in the area.

Dr. Selby was the 2011-2013 President of the South Carolina Music Educators Association (SCMEA) Executive Board, which is in charge of the state conference and is the umbrella organization for the Band, Orchestra, Choral, Elementary, Higher Ed and Piano Divisions. He was President of the Orchestra Division from 2007 to 2009 and led this organization through the restructuring of their Region and All-State Orchestras, and improved the clarity and rigor in the evaluation process at Concert Festival and Solo and Ensemble Festivals.

Dr. Selby lives in Mount Pleasant, SC with his wife, Margaret, and their children, Alex and Kate. He is currently writing his next book, Habits of a Successful Orchestra Director, offering helpful tips for building a strong, successful orchestra program, and a guide to help directors plan and deliver thoughtful, well-sequenced technique instruction in their advanced orchestras.