
"Yes, You Can! A Band Director's Survival Guide to Teaching Strings"

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Introduction

This session covers the essentials of string technique, teaching strategies, and skills assessment for non-native string players who are teaching orchestra for the first time (or 20th) time.

General Principles

1. The right- and left-hand are two different instruments. They need to be trained separately as they have different skill sets.
 - a. Developing independent muscle memory is essential. For string players, new skills for the right- and left-hand skills should be developed separately and then combined together.
 - b. The left-hand should connect directly to 1) aural skills (ear-to-hand skills) and 2) rhythmic skills, in association with (and led by) the right-hand.
 - c. The right-hand connects directly to 1) tone production and control 2) rhythm and 3) articulation.
2. The greatest differences between teaching strings and another instrument (whether it's the voice or a wind, brass, or percussion instrument) have to do with technique and the pedagogical sequences for teaching left- and right-hand skills. Good teaching is good teaching. Good teachers and conductors will use a variety of effective teaching techniques regardless of the instrument in the class.
1. Overall instructional planning stays the same, with an additional emphasis on skill development. Daily exercises in technical development should be part of the rehearsal routine.
3. Rates of instruction vary greatly between voice, wind/brass/percussion, and strings. Overall, strings move through technical advancement levels more slowly than the other instruments.
4. Modeling is the most effective way for students to understand concepts such as characteristic sound, advanced techniques, and so on, but many teachers are fearful of demonstrating these things on a secondary instrument. Ultimately, all teachers of stringed instruments—even those who are string players—ultimately have to rely on an external model for demonstration of advanced concepts of tone production (e.g., vibrato), technique (e.g., advanced positions/shifting) on both primary and secondary instruments. Don't let your own inadequacies on a secondary instrument stop you from a) improving your skills on a secondary instrument and b) finding another way (online examples, guest artists, student models) to demonstrate.

RIGHT-HAND ELEMENTS

Tone production

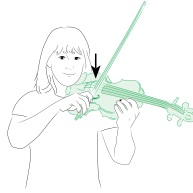
Weight-Angle-Speed-Placement

1. **Weight**—See *Sound Development: Intermediate String Orchestra (SD:ISO)*, pp. 4–5

Bow Weight

BOW WEIGHT is the amount of pressure applied to the string using the right arm and hand. Weight causes the bow to sink into the string.

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- 12 **MEDIUM-HEAVY BOW WEIGHT**—Place your bow in the mezzo forte (*mf*) lane and play with a medium-heavy amount of arm weight in the bow. Play with flat bow hair. Challenge: Go back and play the exercise in a two-part round (group A and B) as your teacher directs.



2. **Speed**—See *SD:ISO*, pp. 6–7

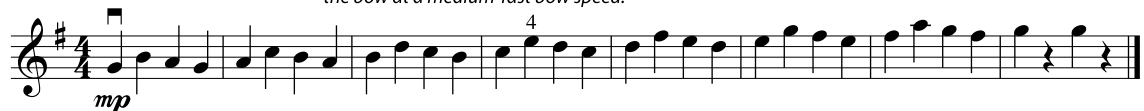
Bow Speed

BOW SPEED is how fast or slow the bow moves across the string. Expressive playing employs a range of bow speeds from very fast to very slow.

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MAELZEL'S METRONOME, abbreviated M.M., uses a number which indicates the number of beats per minute on the metronome. It is often shown with a note value in place of M.M. (♩ = 80). Use a metronome to keep a steady tempo and play each of the exercises below at (♩ = 80).

- 22 **MEDIUM-FAST BOW SPEED**—Place your bow in the mezzo piano (*mp*) lane with a medium-light amount of hand weight and move the bow at a medium-fast bow speed.



3. Placement/Bow Distribution—See SD:ISO, p. 8

TILTING THE STICK

Tilt the stick of the bow by rolling it slightly toward the scroll. Only the edge of the hair will now contact the string.

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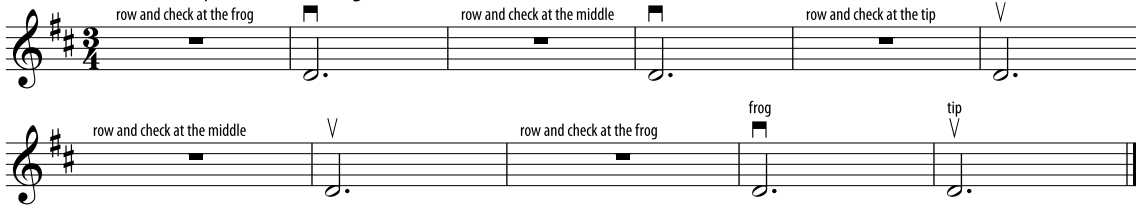
3 **PLAYING IN THE MEZZO PIANO (mp) LANE**—Place your bow in the mezzo piano (mp) lane slightly toward the fingerboard and tilt your bow toward the scroll.



PARALLEL BOWING—Set your bow on the D string at the midpoint of the bow. Push your right hand away from your head and then toward your head in a rowing motion. Pushing your right hand away from you creates an X where the bow hair and the string intersect. Pulling the bow towards you creates an X also. Push or pull the right hand until the bow hair makes a perfect T with the string so it is perpendicular to the string and parallel to the bridge. Keeping the bow perpendicular to the string and parallel to the bridge helps create a beautiful tone.

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7 **ROW YOUR BOW**—Row your bow back and forth during each measure of rest and then stop when it is perpendicular to the string and parallel to the bridge.

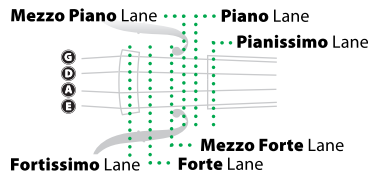


Bowing Lanes/Channels/Angle—See SD:ISO, pages 2–3

Level 1: Sound Tone
Bowing Lanes

A **BOWING LANE** is the area between the fingerboard and bridge where the bow is placed:

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1 **PLAYING IN THE MEZZO FORTE (mf) LANE**—Place your bow in the mezzo forte (mf) lane slightly toward the bridge.



Kinesthetic Elements (developing muscle awareness and muscle memory)

1. Rhythmic Elements of the Bow

- a. Rhythmic competence as audiated/aural competence
- b. Rhythmic competence as physical/kinesthetic competence
- c. Notated/heard rhythms vs. bowed rhythms (connected with tonguing/slurs)

2. Articulation (See SD:ISO, Level 2: Sound Bowings)

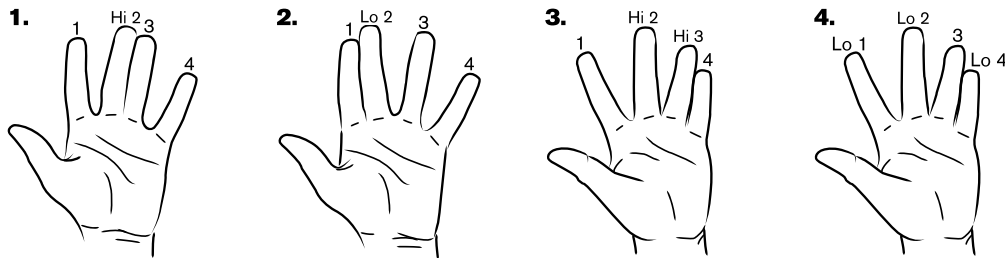
- a. Bowing Terminology—The difference between the name of the articulation style and the name of the bowing technique.
 - i. Legato/Détaché
 - ii. Staccato/Played as separated bows
 - iii. Staccato/Played as Martelé
 - iv. Hooked Bowings (Staccato Style)—Slurred Staccato, Hooked Martelé
 - v. Hooked Bowings (Legato Style)—Detache Lance, Portato, Detache Porte
 - vi. Rapid Detache/Tremolo
 - vii. Collé
 - viii. Staccato/played as spiccato
- b. Rhythms that look easy, but are quite hard (winds vs. strings)
- c. Rhythms that look hard, but should be quite easy (winds vs. strings)

LEFT-HAND ELEMENTS

2. The importance of correct posture—dealing with physical changes during middle and high school
 - a. Violin/viola
 - b. Cello/bass
3. The importance of correct left-hand position
4. Using finger patterns/fingerboard mapping
 - a. Finger Patterns (See *Sound Innovations* Books 1 & 2):
 - i. Pattern 1—2nd and 3rd fingers close (i.e., major tetrachord)
 - ii. Pattern 2—1st and 2nd fingers close (i.e., minor tetrachord)
 - iii. Pattern 3—3rd and 4th fingers close, built from normal 1st finger (i.e., augmented tetrachord)
 - iv. Pattern 4—3rd and 4th fingers close, built from low 1st finger

**FINGER PATTERNS**

Violin, viola and cello use different **FINGER PATTERNS** when playing on different strings or in different keys. Basses use the same **FINGER PATTERN** but in different positions.



- b. Appropriate key areas
 - i. 1st and 2nd year students: D, G, C, and F Major, d minor, e minor, a minor
 - ii. 3rd year and beyond: Bb, Eb, and Ab Major; g minor, c minor, f minor, b minor
- c. Tapes or no tapes?

Shifting and Vibrato

1. Shifting preparation exercises—Use harmonics (SD:ISO, p. 20)

Level 3: Sound Shifting

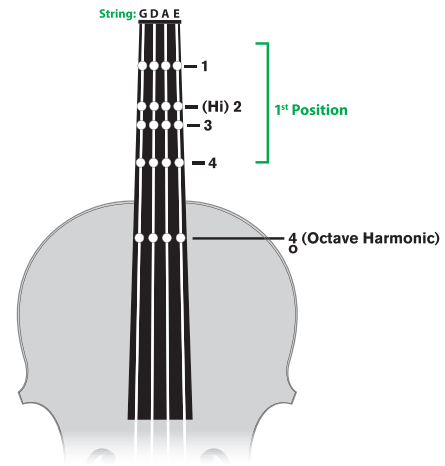
Natural Harmonics

NATURAL HARMONICS—occur when the string is touched lightly at the halfway point between the nut and the bridge so it vibrates on both sides of the finger. They can also occur at the point where the string is divided into three or four parts. The harmonic at the halfway point is usually notated $\frac{4}{4}$ for violins and violas and $\frac{3}{3}$ for cellos and basses.

SUL means “on the.” *Sul* D indicates to play the notes on the D string.

Open D string Harmonic D played *Sul* D
(on the D string)

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83 FINDING THE D HARMONIC—Be careful to follow the fingerings.

2. Understanding the position labeling (SD:ISO, p. 21)
3. Position Exercises (SD: ISO, p. 22–37) in Begin in 3rd position for violin/viola; 3rd and 4th positions for cello; 3rd, 4th, and 5th positions for bass
4. Move to 2nd position for violin/viola; 2nd, 3rd, and 4th positions for cello/bass (For advanced positions, see SD: ASO)

Level 3: Sound Shifting

Playing in 3rd Position: Using Pattern 1

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Check your fingering chart for the new finger placements.

89 FINDING 3rd POSITION ON THE D STRING USING PATTERN 1—Violins and violas find notes in 3rd position. Cellos find notes in 3rd and 4th positions. Basses find notes in 3rd, 4th and 5th positions.

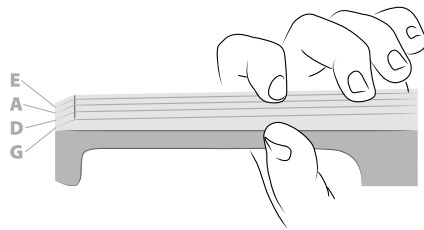


90 PATTERN 1 ON THE D STRING IN 3rd POSITION—Use the fingerings as marked.

5. Vibrato Exercises—Level 3 (pp. 38ff)

PREPARING FOR VIBRATO

1. **FINGER ROCKERS**—Place your left-hand 2nd finger in the channel between your 3rd and 4th finger bones. Gently rock your finger up and down your hand.
2. **FINGER SHOOTS**—While holding the violin in guitar position lightly place your left-hand 2nd finger on the D string. Move up and down the string as if you are wiping off the dust. Gradually go faster and faster from 1st position to the top of the fingerboard. Now repeat in shoulder position.



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BOUT VIBRATO

3. **ARM VIBRATO**—Hold the violin in guitar position. Place your right hand on the bout and then slide your left hand up the D string until it touches your right hand. Place your 2nd finger on the D string. Remove your right hand. Starting the motion from your left forearm gently rock your 2nd finger up and down the string so your left hand bounces off the bout. Now repeat in shoulder position.
4. **HAND VIBRATO**—Hold the violin in guitar position. Slide your left hand up the D string until it touches the bout. Gently rock your 2nd finger up and down the string and keep your hand in contact with the bout. Now repeat in shoulder position.

STYLISTIC ELEMENTS

Stylistic and technical complexity mirrors the technical developments of the instrument and compositional style. The *Intermediate String Orchestra* and *Advanced String Orchestra* books contain multiple excerpts from real literature for use in reinforcing and introducing technical skills and concepts.

Baroque style—Introduced in SD:ISO (See *Brandenburg Concertos #5 and #3*)

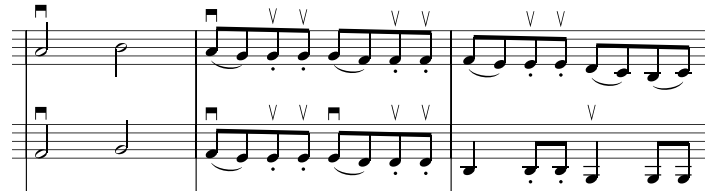
1. Basic slurs
2. What does *détaché* really mean?
3. On-string only
4. Replicated in fiddle tunes and folk music

Allegro moderato (♩ = 100) J.S. BACH

Classical style—Introduced in SD:ISO

1. Introduction of off-string bowings: brush stroke, spiccato (Mozart/Phillips, *Eine Kleine Nachtmusik*)

2. Introduction of classical motif: double up-bow (Mozart/Brubaker, *Symphony No. 25*)




3. Hooked bowings (Mozart/Brubaker, *Symphony No. 25*)



4. Collé motion

COLLÉ—A sharply pinched-attack bow stroke that is lifted off the string in a scoop motion, sometimes called a bowed pizzicato.
Sound Advice: Use finger action to lift and set the bow.

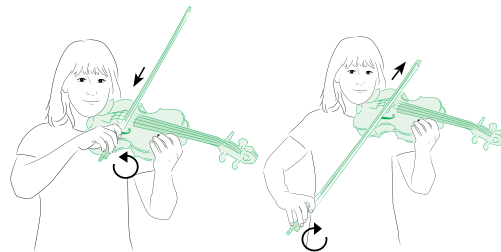



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BOW PULL-UP EXERCISE

1. Hold the bow in a vertical position.
2. While sitting, lean forward and rest your right forearm on your leg.
3. Allow your wrist to extend past your knee.
4. Use finger action to pull the bow half an inch upward. Notice how the knuckles bend and fingers curve.
5. Return the bow downward to its starting point. Notice how the fingers straighten.
6. Repeat this motion several times.

FROG AND TIP COLLÉ



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Romantic style—Introduced in SD: ASO

1. Double-stops
2. More complex martelé bowings and rhythms
3. Longer slurs
4. More difficult hooked and portato bowings
5. Faster spiccato/brush stroke bowings
6. Ricochet & Col legno

Level 2: Sound Bowings

Hooked, Portato, Ricochet and Col legno Bowings

49 HOOKED BOWING: SYMPHONY NO. 8—Practice stopping the bow after the dotted-eighth note to create a slight separation before the sixteenth note.

Allegro moderato Franz Schubert

50 HOOKED BOWING AGAIN: SYMPHONY NO. 4—Practice stopping the bow after the dotted-eighth note to create a slight separation before the sixteenth note.

Finale: Allegro con fuoco Piotr Ilyich Tchaikovsky

53 RICOCHET: ESPAÑA CAÑÍ—Practice ricochet bowing by dropping/throwing the bow on the string. Start above the middle of the bow. Use a collé stroke for the up bows.

Allegro moderato Pascual Marquina Narro

54 COL LEGNO: MARS—Practice col legno by turning the hair of the bow away from you and dropping the stick to create a percussive sound when the wood hits the string. Play the triplets with a ricochet stroke.

Allegro Gustav Holst

col legno sim.

7. Chops (e.g., Darol Anger, Chopagroove)

CHOOSING REPERTOIRE

Grading difficulty—what makes a piece hard? (comparison of Brandenburg #3 arrangements)

EXAMPLE 1. *Brandenburg Concerto No. 3*, Bach/Isaac—3rd and other positions required; complicated string crossings; complicated fingerings (extensions in cello, substantial use of high 3rd finger for vln/vla)

Musical score for Example 1, showing five staves (Violin I, Violin II, Viola, Cello, and Double Bass) in G major, 3/4 time. The score includes dynamic markings such as *p* and *mf*, and various fingering and bowing indications like *4*, *V*, *3 0 4*, *0 4*, *0 0 1*, and *4*. The bottom two staves (Cello and Double Bass) show complex fingering patterns and extensions.

EXAMPLE 2. *Brandenburg Concerto No. 3*, Bach/Meyer—removes complicated string crossings, chromaticism, all in first position.

Musical score for Example 2, showing four staves (Violin I, Violin II, Viola, and Double Bass) in G major, 3/4 time. The score includes dynamic markings such as *mf* and *mf*, and various fingering and bowing indications like *4*, *V*, and *4*. The score is annotated with the word "somednna aetacnea" and includes a first ending bracket labeled "I".

REPERTOIRE SELECTION RUBRIC—DR. MICHAEL HOPKINS (UNIVERSITY OF MICHIGAN)
STRING ORCHESTRA CONSIDERATIONS

	1–2	3–4–5	6–7–8	9–10	Score
Rhythmic independence of the parts	All parts move together rhythmically	There are two or three different interlocking rhythms. Everyone plays on downbeats.	Some parts move independently. Some parts frequently not playing on downbeat.	There is considerable rhythmic independence (fugal style)	
Key	D, G, C major or relative minors.	3 flats to 3 sharps. One key change in middle of piece. Some accidentals.	4 flats to 4 sharps. Multiple key changes. Moderate use of accidentals.	All key signatures. Heavy use of accidentals.	
Tempo and Rhythmic complexity	4/4, 3/4, 2/4 time signatures. Regular and predictable phrase lengths. 1/8note to 1/2 notes. Tempos are moderate.	4/4, 3/4, 2/4, Cut time and 6/8 meters. 1/16 note to whole notes. Dotted rhythms. Considerable rhythmic repetition. Tempos are moderately slow to moderately fast (Andante to Allegro)	All simple and compound meters. Meter changes. Irregular phrase lengths. Very little rhythmic repetition. Some syncopation. 1/32 to tied breve. Triplet rhythms. Tempos range from Adagio to Presto.	Asymmetrical meters. Meter changes. Complex syncopations. Cross rhythms. All note duration values. Tempos range from Molto Adagio to Prestissimo.	
Editing of score	Score is well edited with printed bowings and fingerings in the score and parts. Dynamics and phrasing clearly marked.	Score contains some bowings or fingerings but more editing is necessary. Dynamics and phrases clearly marked.	Score has only a few bowings, no fingerings. Score contains dynamics, but phrasing needs to be marked.	No fingerings or bowings. Dynamics and phrasing sparse. All editing must be completed.	
Bowing Style	Separate bows. On the string detaché bowings only.	Partial measure slurs. Bows move rhythmically. On the string bow strokes. Hooked bowings.	Precise use of on and off the string bow strokes. Use of long sustained bow strokes. Slurs last longer than full measure.	Players must have control over all uses of the bow—on and off the string strokes, slurs of any length, all style of articulations, long sustained bow strokes.	
Complexity of the harmony	Only major and minor triads with roots in bass.	Primarily major and minor triads, with chords in inversion. Occasional 7 th chord or diminished harmony.	Frequent use of 7 th chords, diminished chords, and/or augmented chords. Open quartal or quintal harmonies.	Harmony includes unusual vertical sonorities (bitonality, tone clusters, etc)	
Density of the texture	The texture is simple (melody line, harmony line, bass line; or just melody and bass)	The texture is moderately complex (melody, counter melody, 1 or 2 harmony parts, bass line)	The texture is complex and varied (some sections with multiple melodic lines, sections with polyphony)	The texture is highly complex (multiple melodic lines, extensive polyphony, divisi in multiple parts)	
Idiomatic writing	Writing for the strings move mostly by step and small leaps. Bass mostly doubling the cello part All parts playable in first position.	Some large leaps. Some use of arpeggiation. Bass independent of the cello. Violin 1, Cello and Bass shift to intermediate positions.	Very large leaps that require shifting and/or crossing multiple strings. Heavy use of arpeggiation. All parts require shifting to intermediate positions. Violin 1 and Cello shift to high positions, read tenor clef.	Very large leaps that require shifting in some or all parts. All instruments must be able to access all areas of fingerboard. Considerable independence of inner voices. Violas may use treble clef.	

REPERTOIRE SELECTION RUBRIC—DR. MICHAEL HOPKINS (UNIVERSITY OF MICHIGAN)
FULL/SYMPHONIC ORCHESTRA CONSIDERATIONS

	1–2	3–4–5	6–7–8	9–10	Score
Wind Doublings	Unison and octave doublings stay stable over long periods of time. Bass instruments (Bassoon, cello, bass, 3 rd trombone, tuba) are frequently doubling.	Unison, one and two octave doublings that stay stable over long periods of time. Some independent use of bass instruments. Bassoons sometimes playing independently.	Infrequent use of doubling. Unison and octave doublings are frequently changing. Horn parts contain lots of 4-note voicings. Total independence in bass instruments. Solos for principal winds.	Complete independence of woodwinds, brass and strings. Complex harmonies in all areas of the orchestra. Unusual doublings across multiple octaves. Frequent soli passages for all winds.	
Range of Wind Parts	Woodwinds and brass kept in middle registers, and given frequent opportunities for rest. No sustained high playing.	Principal woodwind and brass expanded to intermediate ranges. Frequent opportunities for rest.	Considerable sustained high playing in the winds. 1 st trumpet must play C or higher. 1 st horn must play A or higher. 1 st bassoon plays above G and reads tenor clef. 1 st trombone must play above F.	All winds must be able to play in all registers and endure sustained high playing. All Trumpets must play C or higher. All horns must play A or higher.	
Solos	No solos in the music.	Some short solos for players in the ensemble.	Several principal players have lengthy and/or exposed important solos. Low instruments may have lengthy exposed passages.	Many lengthy exposed solos for individual players in the music. Long periods of time where most of the orchestra rests while just a few instruments are playing.	
Length of Piece	Under 5 minutes	6–15 minutes	16–30 minutes	More than 30 minutes	

Total Score _____

Scoring Guide—This guide is a rough estimate. Everyone’s scoring system and ensemble level will vary. If your score is higher than this, the piece you are selecting may be too difficult!

	Total String Orchestra Score	Total Full Orchestra Score
First year	8–15	12–23
Second year	16–23	24–35
Third year	24–31	36–47
Fourth year	32–40	48–60
Fifth year	40–50	60–72
High school	51–70	73–100

Reality check questions:

1. Will my ensemble be able to execute the fast passages at the tempo indicated in the score?
2. Are my string sections large enough to balance with the size of the winds?
3. Are my string sections too large to cleanly execute the style?
4. Are the musicians in my ensemble at a level of maturity to learn this music and have the patience to play it well?
5. Will the musicians in my ensemble have the stamina to play this piece? To play the entire program?
6. Do I have enough rehearsal time available to play this piece well (and still have enough rehearsal time for the other pieces on the program)?
7. Am I picking this piece because I am in love with the piece, or is it really a good piece for my ensemble?

Assessment after first rehearsal

1. Were they able to sight read through it at a reasonable tempo without too much difficulty?*
2. Was I stopping and introducing new techniques? (The inability to get through the piece reasonably well when sightreading is a sign the repertoire is too difficult. It is best to introduce new techniques outside the context of learning repertoire.)

Assessment after performance

1. Listen to the recording of your concert two weeks after the performance and answer these questions (or rate your groups' performance on a standard ensemble performance rubric)
2. Did the ensemble play with high levels of pitch and rhythmic accuracy?
3. Characteristic tone quality?
4. Good intonation?
5. Clear articulation?
6. Was the tempo appropriate?
7. Did they play with expression?
8. Did we capture the essence of the musical style?

ANALYZING MUSIC FROM A STRING PEDAGOGY PERSPECTIVE

Technical Elements—String Instruments				
LH Technical Issues	Violin	Viola	Cello	Bass
Required Fingering Patterns				
Required Positions				
Additional Opportunities to learn (list measure numbers): Alternate Positions Alternate Finger Patterns Vibrato				
RH Technical Issues:	Violin	Viola	Cello	Bass
Required Bowings (e.g., détaché, martelé, etc.)				
Optional Bowings				
Special Concerns				

Resources:

Stephen Benham. *Yes, You Can! Survival Guide for Teaching Strings*. New York, NY: Carl Fischer, 2018.

Stephen Benham, et al. *ASTA 2011 String Curriculum*. Reston, VA: ASTA Publications, 2011. Distributed by Alfred.

Bob Phillips and Kirk Moss. *Sound Development: Warm-up Exercises for Tone and Technique—Intermediate String Orchestra*. Van Nuys, CA: Alfred Publications, 2013.

Bob Phillips and Kirk Moss. *Sound Development: Warm-up Exercises for Tone and Technique—Advanced String Orchestra*. Van Nuys, CA: Alfred Publications, 2013.

Bob Phillips, Kirk Moss, Matt Turner, and Stephen Benham. *Sound Innovations: Creative Warm-ups, Exercises for Intonation, Rhythm, Bowing, and Creativity—Intermediate String Orchestra*. Van Nuys, CA: Alfred Publications, 2017.