

Yes, You Can!

SURVIVAL GUIDE FOR TEACHING STRINGS

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Edited by **Doris Gazda**

CARL FISCHER®

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Foreword

When Doris Gazda first asked me to author this book I was incredibly humbled and honored. Honored, because I have such respect for her own incredible accomplishments as a performer, pedagogue, writer, and composer. Humbled, because several thoughts immediately struck me:

Maybe she made a mistake in asking me, when perhaps she meant to ask one of the multiple other individuals who were by far better known and who had a much larger number of publications to their name than I did.

I'm not joking when I tell you that it was several months before stopped expecting to receive an e-mail in which she admitted she'd made a grievous mistake! Instead, what I received were words of encouragement, thoughtful direction, a careful eye and diligent editing, and most of all a colleague who generously shared her experience wisdom and insight with me.

I also wondered...how is it possible to add anything to the discussion of the teaching of string instruments, especially when there are so many excellent method books, not to mention the pedagogical volumes of Galamian, Suzuki, Rolland, and so many others, plus the well-known teachings of individuals like Elizabeth Green, Marvin Rabin, Robert Culver, Mimi Zweig, Louis Bergonzi, Bob Phillips, Kirk Moss, Robert Gillespie, Michael Allen, Pamela Tellejohn Hayes, Anne Witt, Robert Gerle, Christopher Bunting, and Gerald Fishbach, whom I've had the privilege of learning from and whose works I've carefully studied over the past four decades.

But Doris and Larry Clark, Editor-in-Chief at Carl Fischer, assured me that this volume needed to be different. It needed to approach the teaching of strings from the point-of-view of the individual who'd never taught or played a string instrument, but found themselves faced with a classroom full of eager string players. This idea resonated with me, because in my travels around the US some of the most frequently requested clinics I present are those that focus on basic pedagogy and teaching materials geared towards the non-string player. Especially on the West Coast, but increasingly true across the country as a shortage of string teachers continues, we see a large number of band and choir directors—excellent musicians and teachers in their own fields—faced with the daunting task of also teaching strings. And, as I've learned, once these outstanding teachers master a few basics about the string instruments, they can produce orchestras that sound truly magnificent with players who are well prepared technically and musically.

So, Doris and Larry—thank you for your trust, and especially your patience—I believe it's been four years since we first talked about this idea at an ASTA conference in Salt Lake City.

To my students at the Mary Pappert School of Music at Duquesne University—thank you for you letting me bounce ideas off of you and allowing me to use you as test subjects for these and other teaching materials. You inspire me with your enthusiasm, passion, and desire to keep our incredible art form alive and thriving for the decades to come.

To the band directors who've also test driven these materials and offered feedback, including John Benham, Jessican Vaughan Marra, and Chris Marra, and to the band and orchestra directors out in San Jose and in CASMEC (you know who you are), thanks for taking the time to make gentle corrections or suggestions about wind pedagogy and to let me know where language was unclear or where changes might be helpful. My colleague, Paul Doerksen, at Duquesne is also an expert wind pedagogue and I've learned much about sequential wind pedagogy from him.

Last but not least, a special thanks to my wife, Kris, who is unswervingly patient in allowing me to finish these projects on weekends, over holidays, and late at night, when normal people do, well, normal things. Your own excellence as a musician and your unparalleled dedication to the students in your piano studio inspire me to be a better teacher.

—Pittsburgh, Pennsylvania
January 24, 2018

Introduction

So...you just found out that your teaching schedule includes strings or orchestra for the fall semester, which starts next week! You may even be moving through the five classic stages of grief as you realize that your future has forever changed: denial (*there's no way they took away my AP theory class and gave me orchestra—what is this, a joke?*), anger (*I bet the assistant principal did this to me as revenge for that marching band incident at homecoming last fall*), acceptance (*ok, I can do this, I am after all a music educator, and I'm certified by the state—what were they thinking when they made that a K-12 all areas certification anyway?*), bargaining (*I'll do anything—even extra lunch duty—just don't make me teach strings!*), depression (*Alto clef? What in the world is that?*) and, finally, acceptance (*OK, I can make this work...how hard can it be anyway?*).

The good news is that if you are a good musician and understand the basics of pedagogy, you are already equipped with the ability to understand how strings work and what adjustments you need to make in your rehearsal and planning processes.

If you aren't a good musician...well, then perhaps this was after all a revenge tactic by your assistant principal.

If you don't understand pedagogy...well, perhaps maybe this book can help not only with your preparation for strings, but also for any other subject you may teach!

Let me reassure you with a couple of things:

If you already play a wind instrument or are a vocalist, you already have a great core body of knowledge to draw upon when you teach strings. We just need to help you make the translation between what you already know and what it takes to teach strings.

If you are a percussionist or keyboard player but have been teaching band or choir, you will already understand how to transfer that knowledge. As an added bonus, some of what you already know how to do in terms of principles of creating sound will also be applicable.

There may even be a hidden benefit for the band or choral director who suddenly finds herself teaching strings: consider how much more prepared you'll be to conduct that symphony orchestra, or perhaps conduct an effective rehearsal when you'd like the orchestra to accompany one of the great choral works you've planned for this year.

As a last bit of assurance, know this: even teachers who play a string instrument as their primary instrument require a fair amount of knowledge and on-the-job training. I remember the words of Jim Hainlen, who supervised my student teaching placement many years ago in Stillwater, MN. Just before my first rehearsal with the orchestra, when I was pretty sure that the whole thing was going to be a disaster, Mr. Hainlen told me: "Remember your strengths—there's a lot you already know; capitalize on those. Learn to manage your weaknesses and deficiencies, one step at a time."

Those are the same words I have for you: remember your strengths—you can always come back to those. Work methodically and systematically through your areas of deficiency. Give yourself time and be patient. It's worth it!

Chapter 1:

What You Already Know: Fundamentals of Learning Are the Same

For every musician, regardless of instrument, there are several fundamental activities that are the same. Learning is, in essence, the process of forming neural pathways. When we hear patterns of rhythm or pitch, the auditory cortex in our brain makes new neural pathways. Those pathways are reinforced and strengthened every time we hear that same pattern. The myelin sheath that protects the neural axon increases with each recurrence.

The same is true for our muscle memory. The parts of our brain that are dedicated to the direction and control of muscles' movements also use a comprehensive neural network which is reinforced using that same process of myelination. In essence, every time you repeat an activity, your brain reinforces those "thinking parts" that relate to that specific activity. The good news is that when we teach good habits and reinforce proper technique and musicianship skills, the body will learn good habits. The bad news is that when we allow bad technique and bad habits to continue, our brain also remembers those more strongly.

Our task as teachers is to make sure that we guide students into developing good habits (or, to use fancy educational language, *to facilitate learning*) in our lessons and rehearsals. As we plan instruction, we need to make sure that we are preparing learning tasks and sequences that guide students to accurate performance, teach good habits, develop strong aural skills, and so on. And that is the same for all music educators—regardless of specialization.

Pamela Tellejohn Hayes, one of great strings teachers in our country, once shared a story with me about one of her first students—Jeffrey Turner—who later became principal bass of the Pittsburgh Symphony Orchestra and is now a valued colleague at Duquesne University. She said, "I never really taught Jeff—I was simply present as he learned." Isn't that the essence of what a good teacher does...facilitate learning for her students?" The lesson is this:

Don't think you need to be the expert immediately in every area.

Even if you are a wind player who teaches band or a singer who teaches choir, you probably have encountered at some point that moment when the abilities of the students in your class (especially those playing instruments that are your secondary instrument) will exceed what you can know or do. Do you remember those nights cramming the fingering charts for oboe and bassoon just before your rehearsal? Do you remember that moment when the trombone player asked you what position F# was? More often than not, it's possible that your answer was: "I'm not sure, but I'll find out," or, "That's a great question—who knows the answer"?

Learn to Use the Resources You Have At Hand

It will often be the case that you can rely on a student in your class to provide the answer for you on simple questions about things like fingerings and so on. That doesn't mean that you shouldn't learn them, but don't panic if you don't have the answer right away. The better students in a middle or high school orchestra may be taking private lessons, and it's perfectly acceptable for you to rely on those students and even consult with the private teacher. The more skilled students in your ensemble can effectively serve as section leaders and coaches. Many orchestra teachers will use rehearsal time to divide the ensemble by instrument or section and then have the section leader run through music, drill fingerings and bowings, etc., during the class period.

My primary instrument is the cello, but early in my career I relied heavily on colleagues and advanced string players of the violin, viola, and bass to provide good fingering and shifting helps for me. With time, I began to learn what worked best and how to plan more appropriately for student technical development.

An additional resource that teachers in the 21st century have is the availability of the Internet, with its innumerable sources of information. You can often find video resources on YouTube of specific fingerings and bowings for pieces you will be performing. Even after nearly 30 years of experience teaching strings, I still go to valued and trusted colleagues for information on bowings, shifting, fingerings, and so on. I also regularly use YouTube to watch how different orchestras bow certain passages or what articulation style they use at a given point. It can be time-consuming, but it's part of the preparation that all of us need to do, whatever our level of expertise.

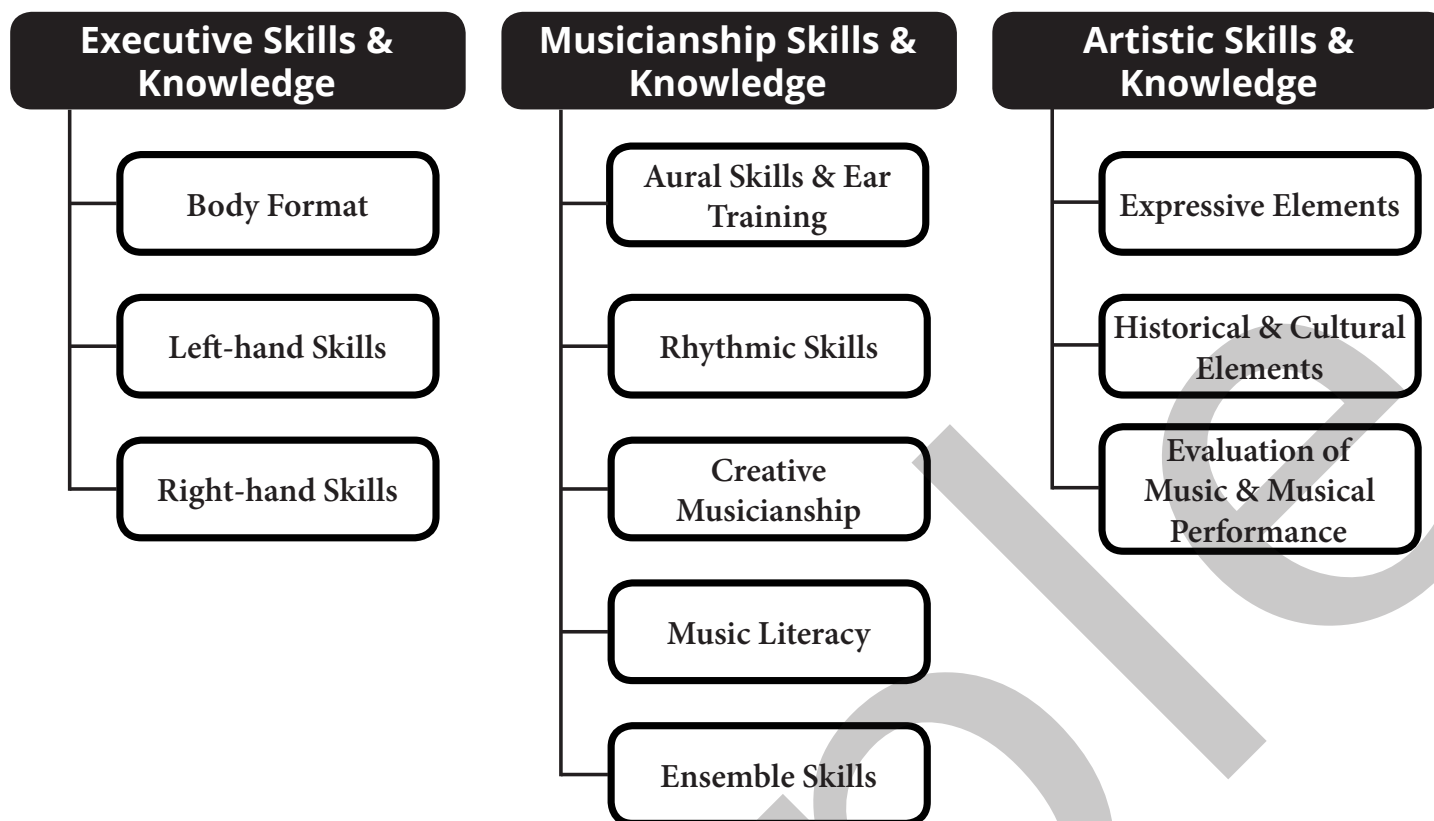
In my career I've had the opportunity to teach and conduct music at a variety of levels, from pre-school general music and strings, to elementary, middle, and high school band (including jazz band), choral ensembles at many levels (including church choirs) in addition to playing in a wide range of ensembles, from local community orchestras to my church praise band. Along the way I've learned that what a music teacher needs to know and what his students need to learn can be broken down into three primary areas: Executive (*i.e.*, Technical) Skills and Knowledge, Musicianship Skills and Knowledge, and Artistic Skills and Knowledge. I first ran across this idea in discussions with a colleague of mine, Christine Jordanoff, who was the chair of music education at Duquesne University at the time and also an internationally recognized specialist and conductor of children's choirs and other choral music ensembles. Together with her friend and colleague, Robert Page (conductor of the Mendelssohn Choir of Pittsburgh), she developed the *Choral Triad Video Workshop*.¹ The basic outline of knowledge was divided into the following areas:

Musical Challenge	Vocal Challenge	Artistic Challenge
The elements of music: What musical skills are required by the music? What current musical skills will students use or build on to sing this song? What new musical skills will they need to sing this song?	Vocal production: What vocal skills are required by the music? What current vocal skills will students use or build on to sing this song? What new vocal skills will they need to sing this song?	Interpretive and expressive skills, style, and history: What artistic skills and experience are required by the music? How accessible is the music to the students?

When the American String Teachers Association asked me and a team of authors² to develop the first K–12 national written curriculum for strings, we followed a similar format, recognizing that these categories are extremely helpful for directors trying to understand how to select music and design rehearsals based on student's needs:

¹ *Choral Triad Video Workshop Workbook*, published by Rowan and Littlefield, 2005.

² Which included my respected and valued colleagues Jane Aten, Judy Evans, Julie Lyonn Lieberman, Denese Odegaard, and Mary Wagner



Looking at this chart helps us understand that the biggest challenge is in the area of executive skills and knowledge. Skilled band and choir directors can easily adapt their knowledge of pedagogy for musicianship and artistic skills and knowledge to the string classroom. There will be differences in some of the sequences. For example, the key areas that are frequently used in string playing differ from those in band. Beginning band books generally focus on keys such as concert Bb, F, and C Major, which are technically a bit easier because of the ability to perform open pitches (especially on brass instruments). Transposing instruments in particular—such as the Bb Trumpet, Bb Clarinet, and Eb-Alto Saxophone—will have complex key signatures in sharp keys. Even G major, a very common beginning string key, requires the alto saxophonist to have four sharps in the key signature. In contrast, string instruments, which are not transposing, have open strings (i.e., the string as it sounds without the addition of any fingers) based on the notes A, D, G, C, and E. The most convenient first pitch patterns for stringed instruments therefore derive from sharp keys.³ As a result, beginning string books focus most frequently on the keys of D and G major, especially in recent decades as the practice of teaching instruments heterogeneously has increased, limiting early string instruction to keys based on the strings that all of the instruments have in common: the D, G, and A strings.

Rhythmic development is also tied directly to the bow arm in the same way that rhythm is also tied to tonguing and articulation for wind players and to sticking choices for percussionists. So, patterns that may be easy to articulate for a wind player may be extremely challenging to perform with the bow. (This issue is explained in much more detail later in this book.)

For that reason, the bulk of this book is focused on the category of Executive Skills & Knowledge in the areas of Body Format, Right-hand Skills, and Left-hand Skills, as shown in the charts below:⁴

³ There is historical precedent for this as well. Until the development of the “well-tempered” system, which permits performance in most major and minor keys without much perceived intonation problems, the mean-temperament systems limited key areas to not much more than 3 sharps or 3 flats. After that point, the keyboard instruments sounded extremely out-of-tune. Further, brass instruments did not typically half valves until the 19th century, so the selection of pitches that could be performed by brass instruments was limited to those naturally occurring in the overtone series.

⁴ Taken from the *ASTA String Curriculum: Standards, Goals, and Learning Sequences for Essential Skills and Knowledge in K–12 String Programs*, by Benham, et al. Reston, VA: American String Teachers Association, 2011. Used by permission.

Chapter 2:

What You Already Know:

The Importance of Fundamentals and Technique

A short Note about Learning:

In the last 40 years, the field of music education has seen an explosion in the amount of information we know about how children acquire musical skills and knowledge. In essence, researchers in the fields of neurology, neuropsychology, music education, music therapy, and related fields of psychology (educational, behavioral, cognitive, developmental, etc.) have identified the specific parts of the brain that are dedicated to the various tasks related to performing on a musical instrument. They have also identified specific activities that both promote and prevent learning, in addition to identifying what learning itself really is.

In essence, knowledge and skills reside in the brain as a result of repeated activities, which reinforce the neural networks dedicated to a specific realm of knowledge. There are specific parts of the brain related to hearing, auditory processing, kinesthetic abilities (muscle movements and ideas), visual processing, reading, mathematical concepts, decision-making, and so on. Recent advances in music research, including advance imagery scans of the brains of musicians, consistently show that individuals engaged in music making use a much greater portion of the brain than those who do not.

The specific physical process involved in learning is the creation of neural networks, which are, at their very core, the connection of one neuron to another. When a neuron is stimulated, it sends an electrochemical signal to another neuron, which then connects to a specific muscle or part of the body related to that activity. Each time a neural pathway is used, the neural axon is reinforced and strengthened with myelin, a fatty substance that protects the axon in the same way that insulation protects a wire. The good news is that repeated activities done correctly can result in good habits that are entrenched in the brain. The bad news is that repeated activities done incorrectly result in the same thing: habits that are entrenched in the brain.

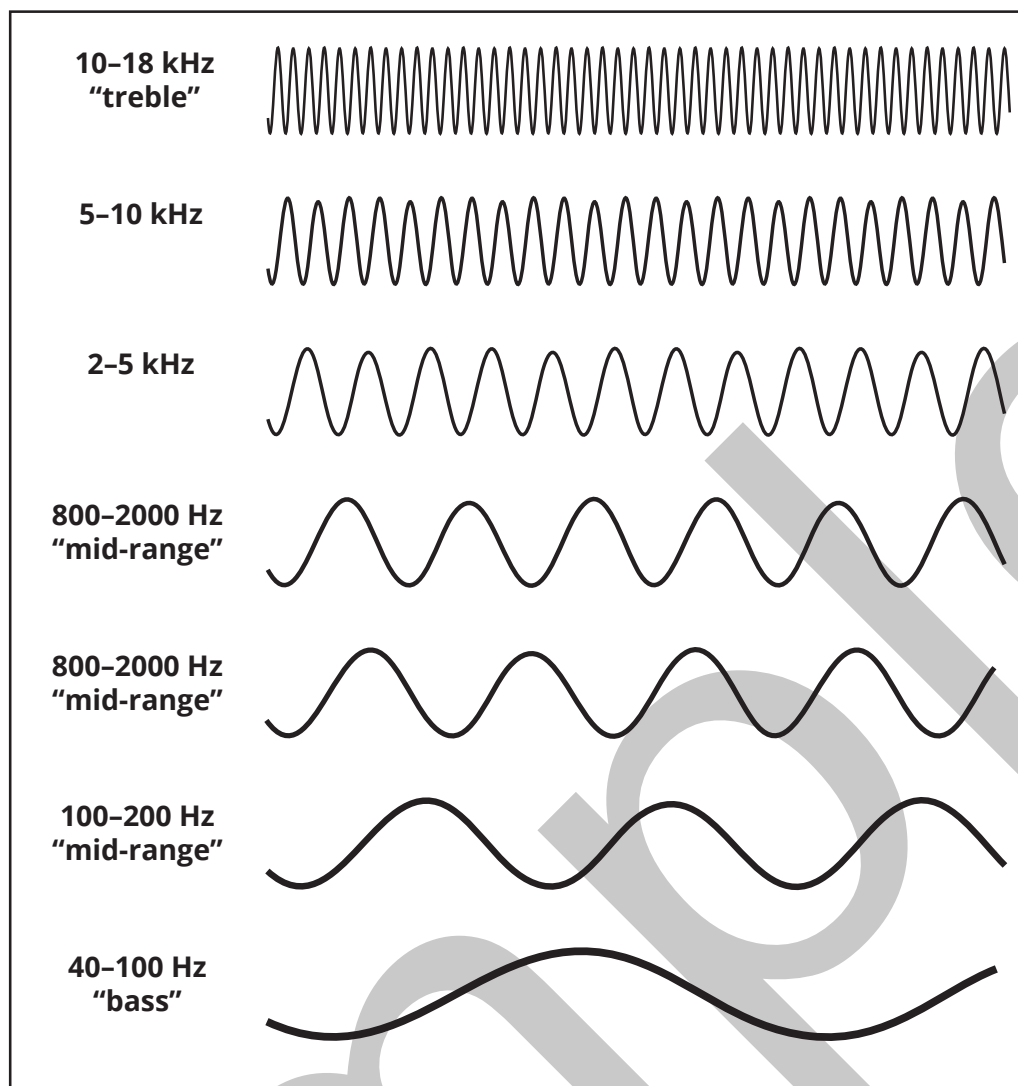
The complexity of the neural network system is far beyond the scope of this book, but I want to emphasize the following: *For the string player, skills and knowledge must be taught separately before being combined into larger, more complex activities.*

In other words, we take the most complex tasks and break them down into the smallest, sensible parts in order to develop good habits for the students. Using the ASTA Curriculum Chart, we can see that we need to develop specific kinesthetic skills for the body, right-hand, and left-hand that are then connected to aural skills (tonal and rhythmic), which were also developed separately (through singing, chanting, movement), before combining all of those things together. Far too often, teachers—including those whose primary instrument is a string instrument—sacrifice good habits in the rush to play more difficult music. As a result, students enter middle school, high school, or even college with serious performance deficiencies (including technique, aural skills, etc.), because those skills were simply ignored earlier in the student's education.

Basic Tone Production: Acoustics

Since the science of acoustics applies to all instruments, this topic serves as an excellent launching point.

The Basic Physics of Pitch—Vibration: There is a direct relation between musical pitch and the speed of vibration. Musical pitches are created when a sound wave is formed at a specific rate of vibration. For the wind instruments the creation of sound waves happens when a vibration is set-up by the movement of air over a reed (woodwinds), the movement of air through the lips, creating a buzzing sound (brass), striking something (percussion, piano) or through the movement of air through the vocal folds (choral).



The Basic Physics of Pitch—Creating Tone: Consistent, focused pitches are established when a standing wave pattern is created. For the string player, these sound waves are created in two different ways. The first is when the bow moves across the strings (known as *arco*), creating friction, which then causes the string to vibrate. The second is by plucking the string (known as *pizzicato*). In both cases, vibration moves from the string through the bridge and sound post into the body of the instrument, which serves as an amplifier for creating the tone, much the same way that the bell of a wind instrument or the body of a percussion instrument helps amplify the sound of the instrument.

The Basic Physics of Pitch—Relationship between wave length and wave frequency. The relationship between wave length and wave frequency is inverse, that is to say that increasing wave length will decrease wave frequency, and vice versa. For example, most of us probably know that higher pitches vibrate at faster speeds; conversely, lower pitches vibrate at lower speeds. The actual length of the sound wave is also directly proportional to the speed of the sound wave. For example, a sound wave that vibrates more slowly is longer than a sound wave that vibrates more quickly. So, lower wind instruments are typically longer than their treble counterparts (think of a tuba compared to a trumpet). The most visible representation of this is in the trombone, where the performer lengthens the slide to create lower pitches. Likewise, a string player adds or subtracts fingers on the string, which directly affects the length of the string, thus raising or lowering the pitch. On a woodwind instrument, keys are depressed or release, affecting the length of the tonal column, which again affects the relative highness or lowness of the pitch. Brass players also adjust the speed of the vibration of their lips to create higher notes (often achieved by adjusting both the speed of the air moving through the embouchure and the amount of firmness in the lips themselves).

Chapter 3:

Fundamentals of Tone Production

The Role of the Right Arm/Bowing Mechanism

Producing a beautiful and characteristic tone on a string instrument is a function of several factors, including the quality and condition of the instrument and bow, accurate left-hand finger placement (both intonation and correct technique), and perhaps most importantly, the function of the right-arm bowing mechanism. In general, string players need to manipulate four key elements in relationship to the bowing mechanism: control of bow weight, control of bow angle, control of bow speed, and control of bow placement (WASP is a useful acronym to remember these four elements). In this chapter, I first provide an overview of each of those four elements in relationship to tone production and then I discuss the physiology of the right arm and what must be done in order to control the WASP elements.

Comparison of Tone Production Principles of Winds, Voice, and Strings

Each of the WASP elements has a direct correlation to tone production on a wind instrument or in the human voice. As you study the WASP elements, try to make comparisons about what you do as a wind player or singer to manipulate tone, and then look at analogous exercises for strings.

String Concept	Wind Concept
Bow Weight	Intensity of breath support, coming from the diaphragm; may also feel like the amount of resistance on the embouchure
Bow Angle	Formation of embouchure, correct address of embouchure to the instrument (e.g., the angle of the clarinet mouthpiece or flute head joint compared to the embouchure); direction of airstream (e.g., flute, brass instruments)
Bow Speed	Speed of breath/airstream; the relative amount of air moving through the aperture of the lip opening (comparing high frequency pitches to low frequency pitches).
Bow Placement	Formation of embouchure, correct address of embouchure compared to the mouthpiece (e.g., ½ upper–½ lower on the trumpet, or ⅓ upper–⅔ lower on the French horn; or, how much clarinet/saxophone mouthpiece, bassoon/oboe reed to take into the mouth). Also relates to how much of the brass embouchure is inside the mouthpiece (e.g., a small amount of lip inside a French horn mouthpiece as compared to a tuba mouthpiece)

In the following section, I discuss the four WASP elements in detail. There are a variety of exercises given throughout this section that will allow you to address one or more of the WASP elements in rehearsal. However, I recommend taking a look at the multiple string method books I list at the end of this book for more detailed exercises and specific links to repertoire.

Weight of the Bow

Bow weight is the amount of direct pressure applied to the string using the right hand and arm. The term “bow weight” is preferred to “bow pressure” as the second can inadvertently imply that there should be increased tension in the bow hand, which is incorrect. Correct use of bow weight is may be observed in the ability of the performer to cause the stick of the bow to move closer to the bow hair (“sink” into the string), while maintaining a completely relaxed bowing mechanism: arm, wrist, hand, and fingers. Generally speaking, greater bow weight corresponds with increased volume and vice versa. The bow is naturally heavier near the frog, especially when the hand is added. As a result, string players need to proportionally

add weight as the bow moves closer to the tip of the bow. This is similar to wind players having to increase a sense of support behind the air column as they get close to running out of air. Bow weight and bow speed are in inversely proportional: as bow weight increases bow speed decreases, and vice versa.

Exercise for Bow Weight

Use a scale of 1–10, with 1 being the lightest and 10 being the heaviest. Practice changing the bow weight on sustained notes, using different amounts of bow speed and changing the placement of the bow. What happens, for example, as you add weight near the bridge vs. near the fingerboard? Where is the best sound produced?

Angle of the Bow

A fundamentally characteristic and optimal sound is most often achieved when the bow moves parallel to the bridge. This keeps the string vibrating at a consistent frequency and keeps the contact point⁵ of the hair. There are two components of bow angle: horizontal angle and rotational tilt.

Generally speaking, string players do not perform with flat hair. Instead, they rotate or tilt the bow so that the bow stick itself leans away from the bridge. This causes the hair to have a narrower, more focused point of contact with the string, allowing a greater portion of the string to vibrate and to create a clearer fundamental pitch.



The second component of bowing angle is the relative position of the bow in relation to the string. In general, string players look for the bow to be perpendicular to the string (*or*, parallel to the bridge), as shown below:

⁵ Contact point has two components: (1) the place on the bow where contact is made with the string and (2) the place on the string where it makes contact with the bow

Chapter 4:

Fundamentals of Tone Production: The Role of the Left-Arm Mechanism

The left arm in string playing has two functions. The first is the manipulation of pitch, through changing notes and adjusting intonation. The second is affecting tone color/timbre by adjusting the part of the finger used to contact the string, shifting (both to access notes that aren't available in first position and also to play the same note on a different string, which results in a timbral change), and vibrato (the oscillation of the notes to create a timbral change or effect). In this chapter, I will deal only with those elements that you are typically going to encounter in a school setting and avoid delving into more advanced, artistic techniques and special effects, which are typically not seen until the university level or above.

The Importance of Relaxation and Balance

Even more than for brass and woodwind instruments, the left-hand for string players plays a crucial role in tone production, technical facility, and pitch accuracy. There are significant differences in the left-arm mechanism for the cello and bass as compared to the violin and viola. However, let's start with general principles that are common between all four instruments.

- There should be a complete lack of tension or stress in any joint or muscle. Tension can be easily diagnosed by seeing joints that are stiff, straightened, immobile, collapsed, or hyper-extended.
- The instrument should be completely supported with the body and minimal (if any) support from the left arm. The left-arm mechanism approaches the neck of the instrument so as to provide the wrist and fingers with the most natural angle of address to the fingerboard.
- Each joint should be completely mobile and relaxed.
- In general, fingers are placed on the tips of the fingers for the violin and viola and slightly closer to the fingerpad for the cello and bass.
- All of the above is a prerequisite for developing advanced technical fluency in functions like shifting and vibrato. When fundamental errors are present (like a collapsed or hyperextended wrist, collapsed or stiff fingers), performers will struggle to place their fingers correctly on the fingerboard, resulting in bad tone (string is pressed too tightly or doesn't make solid contact with the fingerboard), bad intonation (the stiffness of the fingers or the incorrect angle of the hand prevent the fingers from landing in the correct location for a given note), or bad technique (tension and incorrect angle prohibit free movement of the fingers and ultimately inhibit the development of good shifting and vibrato).

For the violin and viola, the position is less natural than for the cello and bass, which only reinforces the importance of maintaining a relaxed arm. This means that students must correctly support the instrument (using the right chinrest and shoulder rests, see Chapter 8 for more details). The player's posture should be lengthened (tall) and balanced. The shoulders should be relaxed and not hunched or out of alignment. The left elbow should easily suspend over the left foot (approximately) of the player, and should stay relaxed in order to easily play on different strings and to shift to different positions on the finger board.



Violin/Viola Correct position of the left wrist, hand, and fingers (front view)



Violin/Viola Correct position of the left wrist, hand, and fingers (side view, high second finger pattern)



Violin/Viola Correct position of the left wrist, hand, and fingers (side view, low second finger pattern)



Violin/Viola Collapsed wrist (incorrect)



Violin/Viola Overextended wrist (incorrect)



Violin/Viola Left Elbow not under instrument (incorrect)



Violin/Viola Left Thumb placed too far under the neck (incorrect)



Violin/Viola Left Thumb placed too high on side of neck; neck is fully against the web of skin between the thumb and index finger (incorrect)

Using Folk Songs to Enhance Aural Skills

Tetrachord and pentachord patterns quickly lose their romantic attraction, but it's just a short step from those to simple folk songs. Within the string world, fiddling tunes are one of the easiest ways to access aural skills and are a lot of fun to play. I teach folk songs, accompaniments, and bass lines to my college string techniques students, and find that every semester there are students who can improvise over the bass line with relative ease, because of the emphasis on the ear-to-hand skills.

I use the following sequence at all levels, varying the amount of time spent on a given level depending on student skill level and the challenge of the individual song:

1. Developing Rhythmic Vocabulary
 - a. Establish Context (duple or triple meter)
 - b. Use movement to demonstrate macro- and micro-beats
 - c. Teacher sings/plays & students echo selected rhythm patterns performed on a neutral syllable ("bah") (Use patterns derived from song material).
 - d. Repeat patterns and provide opportunities for individual performance; sing with students if they are struggling with pattern.
 - e. Teacher sings/plays & students echo same patterns, performing on correct rhythm syllables (du-de).
 - f. Repeat patterns and provide opportunities for individual performance; sing with students if they are struggling with pattern
2. Developing Tonal Vocabulary
 - a. Establish Tonality (tonic and dominant/secondary chords) using piano, voice, or other instrument.
 - b. Teacher sings/plays & students echo selected tonal patterns performed on neutral syllable ("bum").
 - c. Repeat patterns and provide opportunities for individual performance; sing with students if they are struggling with pattern.
 - d. Teacher sings/plays & students echo same patterns, performing on correct tonal syllables (solfege).
 - e. Repeat patterns and provide opportunities for individual performance; sing with students if they are struggling with pattern.
 - f. Reminders
 - i. Ask students to find "home" (tonic) by singing the pitch or playing the pitch on their instruments.
 - ii. Perform tonal patterns out of rhythmic context
 - iii. Remind students to take a breath before echoing patterns. This is essential for audiation and not a natural thing for string players.
3. Song Sequence (Whole-part-whole)
 - a. Sing melody on neutral syllable; quiet piano accompaniment may be used; be sure to establish tonality before performing melody.
 - b. Teacher sing/students echo melody in phrases.
 - c. Repeat phrases and provide opportunities for individual performance; sing with students if they are struggling with phrases.
 - d. All sing entire melody; teacher may demonstrate bass line by singing and/or using Curwen hand signs¹⁴ while students sing melody.
 - e. Sing root melody on a neutral syllable; be sure to establish tonality.

¹⁴ John Curwen developed a system of unique hand signs in the mid-19th century to provide a visual representation of each of the basic solfège pitches, which in a modified form is used extensively by music educators (especially in general music and vocal/choral settings) around the world today.