• Cultivating Cohesion: Five Rehearsal Strategies for Engaging Ears and Minds
• Cello Ensemble: Repertoire and Rehearsal Techniques
• The Double Bass Spiccato

You won’t want to miss the rousing performance by the imaginative Ying Quartet on Thursday evening, March 19 at the 2015 ASTA National Conference in beautiful Salt Lake City, Utah — where you can "expect the unexpected."
**Features**

24 **Cultivating Cohesion: Five Rehearsal Strategies for Engaging Ears and Minds**  
by Jonathan Govias  
As the conductor, I haven’t yet moved a muscle: a raised baton, finger or even eyebrow would avail me nothing, for the 100-plus musicians have beautifully executed this delicate tutti entry with their eyes closed.

28 **Cello Ensemble: Repertoire and Rehearsal Techniques**  
by Benjamin Whitcomb  
The Cello Ensemble—a chamber group or orchestra consisting of all cellists—has many merits that make it distinctive and appealing, especially to cellists. This article addresses issues like rehearsal strategies and repertoire selection, which will hopefully make your next cello ensemble performance a more successful one.

34 **Bass Forum: The Double Bass Spiccato**  
by Lawrence Hurst  
Throughout my career of teaching double bass at the high school, college, and pre-professional levels, I find that one of the most challenging techniques for the student to master is the spiccato stroke.

38 **Violin Forum: The Top 10 Greatest Violin Teachers and the Top 10 Violin Influences in History**  
by Stephen Shipps, Guest Violin Forum Editor  
I have spent the past two years researching the curious idea of identifying the most influential violin teachers in the history of our beloved world of the fiddle. These lists are designed to help you and your students understand that the chain of teachers through the past is essential to understanding where we are in the grand scheme of history.

42 **Things to Consider When Adding Electric Strings to Your Orchestra Program**  
by Ken Dattmore  
As technology continues to transform the classroom in all ways, traditional string programs are opening up to styles outside of the classical realm. Many of these styles allow for the use of instruments beyond the traditional acoustic instruments.
In late February 2014, a high school honors orchestra takes the stage in Durham, North Carolina, for its final concert. The 120 musicians fill the platform to capacity, overflowing forward through the proscenium, spilling sideways into the wings. As they lift their instruments in readiness, silence descends, permeating the furthest corners of the hall. Finally, a sigh of imperceptible origin whispers across the ensemble and the first chord of the Mendelssohn Sinfonia No. 10 sounds in unison, the dark coloration of B minor and the plunging pizzicato downbeat of the massed basses breaking the tension of the silence. As the conductor, I haven’t yet moved a muscle: a raised baton, finger or even eyebrow would avail me nothing, for the 100-plus musicians have beautifully executed this delicate tutti entry with their eyes closed. (http://jonathangovias.com/astvideos/)

Cohesion, one of the indefinable qualities of great ensemble playing, is much more than merely a sense of togetherness. Music educators will undoubtedly be able to recall attending performances of groups, from the youngest amateurs to the professional ranks, in which every note may have been in the right place at the right time, but in which the whole was never greater than the sum of its parts. Musicians instinctively know when intense symbiosis and integration is achieved, just as they also can feel its absence. Cohesion is more than technical or rhythmic accuracy, more than fidelity to the score, more than good intonation. It is a liberated space in which musicians become so connected that moments of great spontaneity, moments of natural and organic music making, or extraordinary acts of collective intuition and interaction can occur. When achieved, it is as transformative to the ensemble’s sound as it is to its psyche. As such, it is the last and perhaps greatest challenge of ensemble directors.

Cohesion is neither magic nor random, however. The musicians in Durham managed to find this space within方式进行。
A viola trio in Bogotá, Colombia, is attempting to play an arrangement of Beethoven’s Ode to Joy. The young musicians are struggling to stay together and maintain the tempo, despite the instructor conducting and simultaneously snapping his fingers on each beat. Intonation lapses and wrong notes abound. The instructor, a teacher in training, repeatedly insists that they watch him as he gives the pulse, yet no improvement is forthcoming. He turns to me for help. “Can you play the beginning from memory?” I ask. They nod affirmatively. I move the three away from the music and stand them back to back, so they have no visual contact, and request they start the piece together without counting in or speaking. They look utterly mystified. They begin, randomly and raggedly, and immediately collapse. I reframe the challenge as a question: “How are you going to start together without counting aloud or talking?” There’s a sudden flash of insight across the face of one of the students. “A breath!” she says with excitement. They return to their position, then breathe and enter as one. They play the passage from memory, musically together. Their rhythm is steady, their intonation and accuracy vastly improved. Every note is progressively more confident. They can do this, and the realization shows on their faces.

The first step an ensemble director should take in rehearsal is to minimize or eliminate anything environmental that detracts from cross-ensemble communication. The first source of extraneous data is often easiest to identify: it’s usually the one on the podium. The conventional manner of ensemble leadership, in which problems are diagnosed and then specific corrective instructions are issued, may be efficient, but it can often subvert the listening process entirely through its emphasis on what is wrong, rather than why. In the instance of the viola trio, the combined physical and auditory information provided by the instructor proved overwhelming for the beginner musicians, who were struggling with the technical challenges of their instrument and were only just coming to terms with the complexities of notated music. For them, the effort of trying to follow the conductor required that they abandon some other mental processes. In this case, and so often in others, listening was the first thing to go. The very presence of a conductor had automatically encouraged them to abdicate all responsibility for rhythm. Their internal clocks were disengaged, and replaced with an external, occasionally conflicting input in an already saturated sensory environment. Without a conductor, sheet music or any visual cues, the violists were forced to re-engage their internal pulse, listen to each other and negotiate a tempo collectively, with manifestly improved results for timing, accuracy and intonation. The fundamental requisite of great, cohesive ensemble playing is great listening, but helping musicians listen and interact effectively is more often an exercise in subtraction than addition. (See Too Much Information by James Stern1 for an excellent analysis of this effect just in relation to the violin itself.)

A high school orchestra in Charlotte, North Carolina, is playing the Villa Lobos Bachianas Brasilieras No. 5 (arr. Krance). The sophisticated rhythms and syncopations are proving very challenging for the young group to coordinate. I ask the second violins, lower cellos and basses to play together, without a conductor. Within three measures they realize that in combination they anchor each other, creating a sonic carpet
of unbroken 16th notes. Within five measures, everything locks in and the balance self-adjusts perfectly. We repeat. The upper cellos and violas are then invited to join. Having heard this foundation twice before, they have no problems playing the darting, intricate rhythms of their melodic line precisely in time. No verbal explanation or instruction has been required.

The difference in approach between Beethoven and Villa Lobos is subtle, but reflects the different relationships requiring emphasis and the relative skill levels of the ensembles. Were one of the five equal voices in Beethoven struggling to a greater extent, integrating it with just one other part may prove more successful. If the isolated sections in Villa Lobos still couldn't coordinate, reduction to just one person per section may help. In both examples, the point in disassembling and reassembling the layers of sound was to help the musicians understand the music through focused interactions and guided listening.

The same process of emphasizing or clarifying relationships can have dramatic impact on issues of intonation or balance as well. Problems in both areas generally stem from the same source: the inability of musicians to hear their output in relation to another voice in the group. This might be caused by context, such as the musical scoring, or musician inexperience, or both. In this case, clarifying the context involves selecting those voices critical to the proper tuning of the instrument in question. By highlighting the elements that need to be heard to correct the intonation or balance, the ensemble director offers a permanent point of reference for the musicians, ensuring they have the tools and knowledge to adjust appropriately in future.

The terms “disassembly” or “reassemble” recall to mind Bruner’s concept of scaffolding, in which a teacher supports student learning through the temporary provision of mediating steps until the student has sufficient mastery to act independently, at which point the support system is removed in a process now called fading. Although the rehearsal techniques described above bear some similarities to Bruner’s concept, a fundamental difference is the absence of fading. The scaffolds, such that they are, are uncovered through the act of disassembly, and within the process of reassembly become intrinsic to the final musical structure. They are never removed, nor are they ever apparent.

A Venezuelan youth orchestra is playing the fourth movement, Bydlo, from Mussorgsky’s Pictures at an Exhibition (arr. Ravel). The tuba solo is consistently out of synchronization with the steady eighth notes in the strings. I turn to the latter. “Play every note fortissimo, and off the string. Make it ugly!” They smile with delight at the unexpected request and throw themselves into it. The musical result is as awful as expected, but the dry rhythmic clarity immediately helps the tuba stabilize. I request the strings go back to détaché and the written piano dynamic. The tuba player remains completely locked in, now that he knows what he has to listen for.

Scaffolding in the conventional sense can still play an important role in clarifying relationships. In the example of the Venezuelan orchestra, a temporary modification of dynamics and articulation helped call the tuba’s attention to a musical element critical for timing. When the dynamics were restored, when the scaffolding was faded, the musician had no trouble seeking out the components he needed in order to stay in tempo.

Ask for Agreement

As strange or abstract as it sounds, simply asking musicians to agree, without mandating any particular musical outcome, can be an incredibly powerful and effective way to engage listening. Almost any aspect of a note, from articulation to dynamics to duration to manner of release, can be collectively and non-verbally negotiated through the simple process of asking for agreement, then having the group play the isolated section a few times. The non-verbal element is key: a conversation on the topic will consume far more time and be far less pedagogically productive than a few repetitions to allow the musicians the opportunity to try and hear different ideas and identify a solution collectively. What is truly remarkable in this exercise is that even beginner musicians will most often gravitate to a consensus that is reflective of the music’s style and character. When proceeding with this technique, it is helpful to reduce the number of variables to be negotiated to a manageable degree. The focus for a phrase may be just one element, such as articulation. If multiple musical elements need to be aligned, the exercise might be restricted to a single note, like the final chord of a piece.

A rare but possible pitfall of this approach is the potential for the musicians to default to the path of least technical resistance. If the ensemble gravitates to the easiest option rather than the most musically appropriate, that generally indicates the exercise has been separated from the musical context for too long.

Figure 1.0 Bachianas Brasileiras No. 5 by Villa Lobos, arr. Krance. Measures 56-58
(Used by Permission of Associated Music Publishers, Inc (BMI), © 1974)
Engage the body

Making music is a physical pursuit. Experienced musicians often describe their practice regimens with sporting terminology, speaking of training or conditioning. Some audiences and musicians denigrate movement as unprofessional or distracting, but they are often reacting to the single visible exception in a sea of relative stillness. For ensemble directors to discourage or even suppress motion not only denies the inherent nature of the craft, but also deprives musicians of essential visual cues for integration and coordination. In a 2014 study, researchers observing the subtle physical interactions of a string quartet in performance determined that the distribution of leadership within the four was a far more dynamic and complex process than the starting assumption of “Violin I is in charge.” Further research also has established cognitive connections between motion and emotion, and even that the simple act of synchronizing gestures can promote a social bonding effect.

Encouraging motion from characteristically inhibited adolescents or adults isn’t easy, but the simplest place to start is to ask an instrumental group to give an initial upbeat and downbeat together, to mirror or embody the gesture initiated by the conductor, instead of reacting to it. But the motion alone is insufficient. Especially for strings, it is critical that the upbeat gesture be accompanied by a broad, audible inhalation. Connecting movements with breathing is a core principle of multiple physical pursuits such as yoga, martial arts, or biathlon. Engaging our respiratory system helps us feel and thus measure both space and time physically. In relation to this exercise, the visual and aural interaction of the motion combined with the breath substantially improves synchronization – but the impact on sound, on the confidence and presence of attack regardless of dynamic, is also immediate and startling. But there’s an additional dimension worth noting: according to a recent study, the act of a group synchronizing breathing in music will forcibly align physiological markers like heartbeats. Can there be a greater sign of cohesion when it extends to human biology?

Perhaps there can, when it transcends both physicality and physics. Breathing has one other, unique quality to it, something I describe as the “anti-gravity effect,” most evident at the highest stages of listening and interaction. When a group, of any size or instrumentation, is asked to coordinate a downbeat with their eyes closed, relying only on breathing, the result defies logic. Countless different starting points and speeds will emerge, yet they will coalesce and converge at a single point of agreement from which a coordinated exhalation, in the form of a downbeat, will subsequently flow. It is as if, in the combined processes of listening and breathing, we search for and find each other in the sound, we align and ultimately unify the trajectories of our respiration – and our playing. The effect is akin to throwing hundreds of balls into the air at different speeds and to different heights, and having them all return to earth at precisely the same moment.

When the 120 young musicians in Durham executed this on stage in concert, it went largely unnoticed by the public. No tawdry announcement was made to the audience: the purpose of the exercise was not to engage in cheap theatrics, but for the orchestra to place itself collectively in a space of the highest attuned, cohesive listening. That one coordinated downbeat by the orchestra, when deprived of every single input but its ears, was an assertion of its empowerment and collective efficacy – the ability of a group to be far greater than the sum of its parts, to achieve together something many of its constituents originally thought impossible.

Be Patient

The orchestra in Durham didn’t succeed in the exercise the first time they tried. Or the second. Or the third. The musicians needed space and freedom to try, to fail, to explore and to reflect. Most of all, they needed to come to trust each other, to know they could create silence, search for that elusive but very real moment of confluence, and find it together. It took time, but their patience was amply rewarded.

Time is an essential element of these strategies. Sometimes the desired results come immediately; sometimes they are achieved over multiple attempts. But when the rehearsal process focuses on sound and listening, on musical frameworks and relationships, not verbal diagnosis and correction, the results are invariably better and lasting.

Themes of facilitative leadership, social constructivism, collective efficacy and empowerment inform these strategies for cultivating ensemble cohesion. This is no coincidence. If music education is to deliver the creative, life-changing experience that the arts promise, in its full power and to its full potential, these elements must permeate its practice.


Jonathan Andrew Govias is internationally recognized for his activities as a conductor, writer, educator and public speaker. Appointed music director of a professional orchestra at the age of 22, he since earned a doctorate in orchestral conducting and performed with orchestras on four continents, including a June 2009 debut with Canada’s National Arts Centre Orchestra. He has worked with some of the leading ensembles of the world. A recipient of the Pridgy Fellowship in Arts Leadership, the Reinhard Mohn Fellowship for Social Entrepreneurship, and a member of the inaugural class of Abreu Fellows at the New England Conservatory, Govias regularly consults for music education programs around the world on organizational or pedagogical strategies. As a clinician he works with youth orchestras across the Americas and Europe, and leads advanced teacher training sessions on orchestral conducting and social learning techniques and environments. He is currently assistant professor and director of orchestras at the University of North Carolina Charlotte.