The History of String Orchestra in Public Schools and Contributing Pedagogues

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Abstract

Instrumental music was first established in Boston schools by Lowell Mason in 1838 (Mark, 2008). At this time, the string orchestra programs were only open to students with experience on the instrument (Mark, 2008). The orchestras included winds as well as strings (Mark, 2008). Most practices in American string orchestras and in private lessons stemmed from European influences from the 19th and 20th centuries. Two pedagogues and performers from Europe that greatly influenced American practices, especially in the public schools include Kató Havas and Paul Rolland. Further, Shinichi Suzuki, a Japanese violinist with practice from Europe, also dedicated his life to making the violin accessible to all students through his Talent Education system. Although these pedagogues emphasized relaxation techniques, accessibility to all students, and teacher training, sometimes elitist practices have continued to regulate string orchestra as a marginalized music practice in public schools. This paper will summarize the history of string orchestras in public schools with an eye toward the European origins and practices, highlight a few of the many influential pedagogues in American string orchestra practices, and reflect on the influence of past practices and European influence on the current status of string orchestras in America public schools.

The History of String Orchestra in Public Schools and Contributing Pedagogues

String orchestra began in public schools as a combined instrumental music class (Mark, 2008). These classes were taught before or after school, defining instrumental music as “extra curricular” early on. In addition to the fact that classes had multiple types of instruments and were taught after school, teachers were typically trained in European styles of instrumental music or in the early religious singing practices. This led to poor instrumental teaching practices, especially once string orchestra separated itself from instrumental music, that previously included band instruments. European practices also led to an elitist attitude early in the formation of string orchestras in public schools. Pedagogues like Kató Havas, Shinichi Suzuki, and Paul Rolland all improved string orchestra and orchestra teaching in public schools by better equipping teachers with strings teaching techniques and providing greater opportunities for students in public school string orchestra classes. Despite their European training, Havas, Suzuki, and Rolland brought practices to America that were not elitist, like some of the earlier teaching techniques and structures in public school string orchestra.

The History of String Orchestra in American Public Schools

The string orchestra had an inauspicious beginning in public schools that led to poor teaching quality and low enrollment in the 1800s. Lowell Mason brought instrumental music to the Boston public schools in 1838 (Mark, 2008). In the mid - 1800s, instrumental music was called “orchestra,” but the orchestra consisted of wind and string instruments (Mark, 2008). The “orchestra” class was open only to students who had prior experience on the instrument, typically in private lesson settings (Mark, 2008). This meant that students who studied string instruments at this time could afford to own a European instrument.

School orchestras were not well - established across the country until the 1850s when manufacturers and local schools fully supported and implemented the programs with materials

and space to teach. Although this timeline seems accelerated with the start of instrumental music programs in 1838 and school orchestras established in the 1850s, vocal music programs were functioning in schools decades before instrumental music (Humphreys, 1989). Churches prioritized vocal training to improve singing in churches; therefore, there was no need for the “distraction” of instruments (Humphreys, 1989). Eventually, churches did require instrumental accompaniment and thusly supported the education of instrumental musicians (*American-made violin* | *The American Collection from JSI*, n.d.). Unfortunately poor teaching techniques for instrumental music lingered from poor teacher training in singing schools (Humphreys, 1989). School orchestras remained low in enrollment, as only students with the resources for an instrument and private lessons could enroll in the school orchestra (Humphreys, 1989).

The Availability of Instruments

Instrument availability was an issue for string orchestras in public schools when programs were first created. As noted, colonists in the 1800s did not deem instrumental study a necessity. In fact, in many places in the United States, the acquisition and practice of an instrument was considered frivolous as colonists attended to more pressing survival duties (*American-made violin* | *The American Collection from JSI*, n.d.). Upper class citizens could afford instruments but only wanted the highest quality instruments which were often made in Italy (*American-made violin* | *The American Collection from JSI*, n.d.). Soon after the acceptance of instrumental study in public schools for sacred accompaniment, American manufacturers made inexpensive models of French and German instruments to make them more affordable and available to the American public (*American-made violin* | *The American Collection from JSI*, n.d.). With the adequate availability of instruments in America, string orchestras were established more easily in public schools and invited more novice players.

The Rise of Orchestra Classes in Public Schools

The creation of full time music teacher positions, academic credit for orchestra, as well as music theory and appreciation, and other resources for music teachers led to a general rise in instrumental music classes in the early 1900s (Humphreys, 1989). One of the first violin classes in public schools was held by Albert Mitchell in Boston in the early 1900s (Turner, 2001). The classes were after school group classes based on the Maidstone movement, a British group violin instructional program for children, (Keene, 2009; Turner, 2001). Lewis A. Benjamin and his sons brought other free violin classes to schools during this time in New York City, Brooklyn, Philadelphia, Camden, and Pittsburgh (Keene, 2009). Newly established orchestra classes and teachers also included the Nathan Hale School in New London, CT, Jesse Clarke in Wichita, KS, and Will Earhart in Richmond, IN (Turner, 2001). Will Earhart was also instrumental in making orchestra classes for academic credit in 1905 (Humphreys, 1989). Joseph E. Maddy's Indiana High School symphony orchestra also advertised success for orchestras in schools at conferences and in the community through performance (Turner, 2001). Inspired by the Indiana High School symphony orchestra in 1927, the Music Supervisors Conference created a resolution to give music curricular representation equal to all other subjects in public schools (Turner, 2001).

Orchestras both in American schools and from Europe traveled and performed across the United States, advertising for orchestras in public schools .With these advertising performances, support for orchestras and violin classes continued to grow through the early 1900s (Humphreys, 1989). These orchestras helped to emphasize European practices from the inception of American orchestra programs, focusing on small group or individual lessons and performance - based instruction (Humphreys, 1989). Eben Tourjée also assisted in the institution of a "conservatory" system in the United States, allowing elite, talented students to travel to study with great musicians and teachers (Keene, 2009).

Decline of Orchestras in the 1930s and 1940s

Orchestra programs and enrollment decreased in the 1930s and 1940s, while wind bands saw an increase. Scholars like Turner (2001) blame the American band model, the World Wars, band instrument promotion by manufacturers, increases in band contests, poor group teaching techniques in string classes, selective, elitist attitude from strings programs, ineffective recruiting, radio and other technology of this era, and a turn in focus from professional organizations for the decrease in orchestra programs. For example, World War veterans returned to the states looking to use their leadership skills as teachers. These veterans mostly had experience in military bands, and because of the wars, there were few resources for orchestra programs (Turner, 2001). To further Turner's argument about the condition of school orchestras, Birge (2011) notes that some orchestra educators and professional organizations turned their attention to group teaching (Birge, 2011), group teaching techniques in strings classes were poor, and this made it difficult to recruit or keep students in school orchestras (Turner, 2001). Orchestra teachers further isolated their subject area by insisting on the European elitist attitude, only allowing the best students to join orchestra and creating conflict with their band colleagues (Turner, 2001). All music groups benefited from the radio as advertisement for music programs (Humphreys, 1989), but Turner (2001) suggests that media of the day preferred bands and promoted their performances more prolifically. Luckily, many professionals noticed the sharp decline in school orchestra participation. Professional organizations like Music Teachers National Association (MTNA) and Music Educators National Conference (MENC) worked to provide professional development and other opportunities for string teachers to develop their skills for group orchestra settings in schools.

School Orchestras in the Cold War Era

Professional organizations like MTNA and MENC continued to support string orchestras throughout the 1950s and 1960s, despite the fact that resources were sparse. MTNA mostly consisted of private music teachers, and still does, but was important in the foundation of string orchestra in public schools because many classroom orchestra teachers were first private instructors (Mark et al., 2007). A feeling of “class distinction” originally made MTNA appealing for public school strings teachers but now is less inviting (Mark et al., 2007, p. 213). MENC showed its greatest support to the strings community by allowing The American String Teachers Association (ASTA) to officially establish itself in 1959 as a part of MENC (Reed & Stenger, 1996). ASTA soon realized the need for an independent organization that focused on the needs of only string teachers, so ASTA broke from MENC in 1961 (Reed & Stegner, 1996).

String orchestras had to make changes to accommodate a changing society and lack of resources for programs and instruments during the Cold War. Manufacturers and luthiers changed horse hair on bows to a synthetic blend to adapt to the lack of horse hair coming from European countries (Reed & Stenger, 1996). Similar to the way orchestras were popularized in public schools from traveling European groups in the early 1900s, traveling string quartets from America and Europe continued to spread interest about string orchestras during this time (Reed & Stenger, 1996).

This endorsement as well as the support of professional organizations like ASTA allowed pedagogues to make their greatest contributions to group instruction in U.S. strings programs in the 1960s. Some even changed their elitist attitude toward string orchestra. Robert Klotman noted:

> The prime responsibility of the music educator is not to develop string players for the symphony orchestra but to develop a generation of musically sensitive, intelligent adults

> who will be sufficiently responsive to participate in the musical climate of the community. (Harth, 1964, p. 26)

Pedagogues such as Kató Havas, Shinichi Suzuki, and Paul Rolland all made significant impressions on American public school orchestra education. Although each pedagogue has unique practices, they are all influenced by European teachers and their training on the violin and established group string teaching techniques that are still used in public schools today.

Increases in School Orchestra Programs in the 1960s

Many factors contributed to string orchestra flourishment in the 1960s. The Elementary and Secondary Education Act of 1965 (ESEA) provided the resources for more opportunities for music in schools (Reed & Stenger, 1996). As a part of the ESEA, the Department of Education funded the Paul Rolland String Research Project at the University of Illinois, and the Ford Foundation funded professional orchestras (Reed & Stenger, 1996). This pattern of support saw an increase in string instrument sales, increases in strings programs, the implementation of heterogeneous classes (that had previously been violin - only), and increases in publications, specifically relating to teaching heterogeneous classes (Reed & Stenger, 1996). Music for string orchestra became more financially feasible with the removal of taxes on imported music (Reed & Stenger, 1996), an important step for string orchestras that relied heavily on European music. Although instruments and music became more available to families during the 1960s, a reliance on European music and practices still left string orchestra in an elite category of school music. Finally, television and videos were used to promote orchestras and better prepare teachers and teacher trainers (Reed & Stenger, 1996). Overall, string orchestras experienced a tumultuous endeavor of growth, decline, and then growth again from the late 1800s to the 1960s. Some scholars blame band programs at the low points for strings and applaud orchestral organizations and pedagogues during times of growth. However, the European models and

teachers' unwillingness or inability to change teaching practices are often at the root of orchestral decline and indeed growth as well.

Pedagogical Influences of Orchestra in Public Schools

Many pedagogues and professionals contributed to contemporary string teaching practices in schools, but Kató Havas, Shinichi Suzuki, and Paul Rolland are among the most notably published individuals, particularly during the 1960s. Kató Havas and Paul Rolland both received their education on the violin in Hungary and used their experiences as well as observations of their own students to address issues of tension in string playing. Shinichi Suzuki had a different approach to teaching strings, particularly the violin and viola, called the Talent Education system. To Suzuki, anyone could play the violin, shattering the European and adopted American idea that students needed to be born with talent. Havas, Suzuki, and Rolland's practices came with them to the United States and greatly influenced string teachers beginning in the 1960s and continuing today.

Kató Havas

Kató Havas was born in Transylvania, Hungary in 1920 (Perkins, 1995). She was a child prodigy on the violin from the start (Perkins, 1995). As a young violinist, she was obsessed with the gypsy violinist Csicso but received formal training at the Royal Hungarian Franz Liszt Academy (Perkins, 1995). In 1939 she received a diploma from the Budapest Academy (Perkins, 1995). After her great early success on the violin, Havas took 18 years off from playing the violin (Perkins, 1995). Eventually, she reengaged but this time as a violin teacher in England (Perkins, 1995). She noticed debilitating tension in her student's body while playing and thus created the New Approach, writing a series of articles about it in *The Strad* and writing multiple books on it (Perkins, 1995).

Although she is foremost a European violinist and pedagogue, Kató Havas and her techniques have made a great impact on American public school string education. Despite her privileged beginnings, she dedicated her teaching time to helping those who other teachers often denied because of their lack of "talent." Her focus on the "whole - body" method contributed to a better understanding of how each part of the body relies on the other for support in playing the violin or viola (Perkins, 1995). Havas layed out her most distinguished practices in her book *A New Approach to Violin Playing*. She focused on the violin (or other string instrument) having an enjoyable tone and allowing all students to have the opportunity to improve, distinguishing herself from elitist pedagogues of the time.

Pedagogical Techniques

Havas' focus on the body and quality tone production define her pedagogical techniques. "Warm and beautiful tone has nothing to do with talent or individual personality" (p.4); students often attempt to blame the instrument when they do not get a good tone (Havas, 1961). There are very few occasions when Havas blames the instrument, but in rare cases she blames the instrument's accessories like the shoulder rest or chin rest. Interestingly she notes that "when the violin achieved its present shape there was no need for a shoulder pad, simply because men's jackets were thickly padded" (Havas, 1961, p.13). Therefore, she was particularly careful when choosing shoulder rests or chin rests for her students, being sure to make the shape work for the student in an effort to allow the body to achieve a natural position in line with the violin.

Havas also emphasized the positioning of the feet for standing instruments perpendicular to each other with the majority of the weight on the back foot (Havas, 1961). The violinist (or violist) needs to pull their weight backward in an effort to balance the instrument that is jetting forward, relieving tension and weight in the left hand (Havas, 1961). She continues her

discussion of the left hand by referring to "base joints," or the larger joints of the arm and hand. She notes that the fourth finger has the most difficulty playing because the base joint of this finger is smaller and more difficult to feel (Havas, 1961).

When shifting, she recommends that the student learns to hear and sing the interval before making any sound on the instrument (Havas, 1961). Although widely debated in string pedagogy at the time, Havas recommends that the left wrist touch the instrument in third position and notes that it is better to learn third position before second position when learning to shift (Havas, 1961). She was also a proponent of setting the first finger in the new position, before placing any other fingers (Havas, 1961). Overall, Havas advocated for encouragement and correct positioning of the body for good string playing. Many of her techniques related to instrument and body positioning can be seen in string orchestra classrooms today.

Havas' Practices in American Public Schools

Although Kató Havas did not spend an extant amount of time in American public schools, at the invitation of the American String Teachers Association (ASTA), she did present many sessions on pedagogy and agreed to be a part of research at the University of Illinois in Paul Rolland's String Research Project. At a time when string teaching practices were at a low, Havas was able to share her teaching success and bring her pedagogy to American strings teachers. Certainly she was not the first or only teacher with these pedagogical techniques, but she is noted as one of the first who was able to bring these ideas to America (Perkins, 1995). For example, her thoughts on shifting and the fourth finger can be seen in beginning to intermediate string method books. These books introduce the fourth finger last and introduce the third position first in shifting, just as Havas recommended. Although many public school teachers do not have the time to find a shoulder rest that is a perfect fit for each student in the large ensemble, teachers do enforce the use of a shoulder rest in order to bring the instrument

in line with the student. These practices as well as her philosophy that anyone can play the violin and should be given the chance to learn continue to impact public school string programs.

Shinichi Suzuki

Shinichi Suzuki started his violin practice where he grew up in Japan but was quickly disappointed at the level of teaching, so he moved to Europe to continue his studies (Perkins, 1995). However, upon his return to Japan he found that his wealthy family lost all of their money in an economic crisis (Perkins, 1995). Consequently, he taught violin lessons to make money for his family (Perkins, 1995). He was so successful that his teaching practices permeated Japan and soon made their way to America. In 1964, at the invitation of ASTA, he came to America with his touring orchestra, inspiring teachers across the nation to use Suzuki's method of instruction in their large group string orchestras (Mark, 2008). Suzuki's "Talent Education" system was inspirational to American string teachers who struggled with large class sizes and a lack of basic techniques in their teaching. Many of his established pedagogical techniques permeate the public school string orchestra classes and method books today.

Pedagogical Techniques

Suzuki's teaching was founded on his method of "Talent Education," which shattered the idea that students needed "an innate aptitude for music" (Suzuki et al., 1973, p. 13). He further emphasized that "an ear for music can be acquired" (p. 12) and that parents should nurture a musical environment as early as possible (Suzuki et al., 1973). Although he does not credit other pedagogues of the time, Suzuki followed the theory that children learn language in a similar way that they learn music (Perkins, 1995). His method is heavily reliant on parental support and listening to develop the ear for musical attunement.

A strict adherence to Suzuki's method requires that mothers attend lessons to be able to encourage and prepare students at home while practicing (Suzuki et al., 1973). Parents should

not force children to practice (Suzuki et al., 1973). Further, Suzuki considers the standardized repertoire, a part of the Suzuki method and accompanying Suzuki method books, enough of a motivating factor for students to have the desire to practice on their own (Suzuki et al., 1973). Students should listen to the piece of music they are preparing every day, and every step of the music learning process must be mastered before moving along to the next step (Suzuki et al., 1973).

Left and Right Hand Techniques Suzuki is a proponent of a firm hold on the violin (Suzuki et al., 1973). Suzuki violin and viola students turn their head to the left at a 45 degree angle and use a shoulder rest to keep the instrument upright. Students who study under the Suzuki method can easily be seen by the tape on their bow. The Suzuki technique encourages the teacher to put tape on the stick of the bow to divide the bow in thirds (Suzuki et al., 1973). This helps young students to control the bow more carefully. Suzuki is also an advocate for placing the 3rd finger on the fingerboard first, allowing the other fingers to fall in place (Suzuki et al., 1973). Thin tapes on the fingerboard help the students shape the left hand but should be taken off before the students become reliant on them for intonation (Suzuki et al., 1973).

Suzuki Practices in American Public Schools

Most teachers do not adhere to a strict Suzuki - only approach, but his techniques and method books can be seen in many public school string orchestra settings. His major contributions were his basic principles for teaching large groups of string students and the established repertoire in the Suzuki method books. Suzuki supported the idea that teachers should lead students to self directed practice (Suzuki et al., 1973). This ideal works well for public school teachers who teach a large group of students at once and send them away, often a week at a time, to practice on their own. Although mothers attending lessons is not a practice that public school teachers engage in, many music teachers do use finger tapes and even tape

on the bow to make teaching large groups of students easier. Further, some of Suzuki's left and right hand techniques can be seen in modern method books. For example, placing the third finger on the fingerboard first is encouraged in most beginning strings method books. Although Suzuki himself does not credit Edwin Gordon's Music Learning Theory for his ideas about learning music like a child learns language (Perkins, 1995), certainly these ideas echo each other and contribute greatly to teaching string orchestra in American public schools.

Paul Rolland

Paul Rolland was born and raised in Budapest, Hungary (Perkins, 1995). He was a child prodigy on the violin (Perkins, 1995). Like Havas, Rolland was greatly influenced by gypsy violinists and received his formal training from the Royal Hungarian Franz Liszt Academy on both the violin and viola (Perkins, 1995). Despite his beginnings in Europe, many authors note Rolland as an American violinist because of his extant time in the United States and his role in establishing string teaching practices and ASTA.

Rolland's teaching practices are enriched in research. The ESEA of 1965 assisted in establishing the Paul Rolland String Project at the University of Illinois Urbana - Champaign by funding it (Mark, 2008). As a part of the research, Rolland taught for 2 years at Urbana Public Schools (Perkins, 1995). Here he firmly established and practiced his string teaching ideas, all the time with a desire to pass the information to as many string teachers as possible. Recognizing poor school string teaching practices in the past, Rolland noted: "Future programs should avoid practices that contributed to the decline of strings in the past" (Rolland, 1947, p. 34).

Pedagogical Techniques

A multitude of Rolland's string teaching practices can be seen in contemporary public schools, including both classroom practices and method books. Rolland's ideas are particularly

useful in beginning string classes but can certainly be applied across many levels. Although neither Havas nor Rolland mention each other in published literature (Perkins, 1995), both techniques focus on the balance of the body and treating the whole student. Rolland emphasized the use of video and audio recordings in teaching students but more importantly in teaching training. He demonstrated his enthusiasm in a series of 14 instructional videos *The Teaching of Action in String Playing* (Zweig, 2011). Rolland believed that, if introduced properly and sequentially, all major parts of playing a string instrument can be introduced in the first year (Rolland, 1947). He recommended the following sequence for beginner instruction: left hand, bow, and note reading (Rolland, 1947).

Left Hand

Rolland suggested placing all 4 fingers from the start to better form the shape of the hand (Rolland, 1947), distinguishing himself from Suzuki and Havas who believed the fourth finger is too weak to initially play on. This may be due to Rolland's experience with cello students, who need to use the fourth finger to play beginning pitches and music. Rolland also considered the idea of starting beginners in first, third, or fifth position (Rolland, 1947). All positions would be equally ideal for the keys he considers to be appropriate for beginning string students, D, G, and C major (Rolland, 1947).

Right Hand

Rolland mentioned many ideas about the bow that teachers with training on any string instrument or in string teaching now consider common knowledge. However, this puts into perspective the lack of training of many string teachers at the time that he was actively writing, researching, and teaching. For example, he emphasized the right angle from the elbow for the bow arm (Rolland, 1947). He also noted that too much rosin on the bow will produce a fuzzy sound and too little will produce a poor tone or no sound (Rolland, 1947). Too much weight or

too little weight will produce poor tone quality as well (Rolland, 1947). After years of study, Rolland found that encouraging young students to hold the bow near the balance point would help them establish the proper weight distribution to produce good tone (Zweig, 2011).

Rolland Practices in American Public Schools

One of the greatest accomplishments of Rolland's research and pedagogy was his approach to large group teaching in the string orchestra setting. Many of his ideas for teaching large groups of string students are encouraged in modern teaching training programs. Some of his ideas that he poses in his (1947) article *The Teaching of Strings* include:

- Keep the whole class busy at something all the time.
- Don't conduct in a beginner class.
- Stress one point at a time. (p. 58)

All of these ideas are considered best practices in music classrooms today. Additionally, his left and right hand techniques for beginners are used in teacher training as well as method books. Some of the most recently published beginning string method books like *Essential Elements for Strings, Sound Innovations for Strings,* and *New Directions for Strings* introduce the keys of D, G, and C first, like Rolland's recommendation. Overall, Rolland's perspective "don't teach material, but teach the child" (Rolland, 1947) best summarizes his approach to teaching and the attitude other teachers should have in their practice.

String Orchestra 1970 - present

String orchestra has changed in the modern era though the roots of orchestra are still seen in current trends and practices. Researchers are eager to summarize current trends and authors, philosophers, and pedagogues are eager to innovate string orchestra to appeal to a more diverse group of students and make string orchestra a more appealing and approachable profession for young musicians. Prominent figures in string orchestra in the 20th and 21st century combine knowledge and skills from a variety of fields to disperse the most vetted

information to teachers, students, and other music professionals. String orchestra continues to distinguish itself from other areas in music education with its own curriculum and assessment guide sponsored by ASTA, but other curriculums in method books and state and local school districts also exist, making orchestra programs across the country unique.

Strings Specialists in Higher Education

Many influential individuals in public school string teaching exist in higher education, namely music education professors with expertise in strings teaching. Some of the most prolific researchers, educators, and writers in string orchestra that are now influential in higher education as music teacher educators include Gail Barnes, Brenda Brenner, John Geringer, Michael Hopkins, Rebecca MacLeod, and Margaret Schmidt. Most of these individuals were string teachers themselves at one point and then developed into researchers and educators in colleges. These professors are important because string orchestra is a specialized field, and unlike many other fields of music education, there are few individuals doing rigorous research and publishing it specifically for string orchestra. Not only do these professionals play a major part in the research for string orchestra but also they influence the next generation of string teachers that are in public schools. They are eager to mentor hundreds of strings teachers who use research backed approaches to teaching. String orchestra educators are extremely influential in public school string programs because of the teachers they coach into the field.

ASTA Curriculum and Assessment

As with the start of ASTA, the ASTA curriculum and subsequent assessment manual were created out of the need for national guidelines that apply directly to string orchestra. The ASTA curriculum was published in 2011, and the assessment guide was published in 2018, making the materials very new to the collection of curriculum and assessment for string orchestra. The authors of these materials are Denese Odegaard, Jane Linn Aten, Judith P.

Evans, Mary L. Wagner, Stephen J. Benham, Julie Lyonn Lieberman, and Margaret Berg. Each of these individuals has contributed to strings at both local and national levels, beginning their careers as string teachers and expanding their works to include authoring method books and teaching materials, conducting research, conducting various large ensembles, and teaching in higher education. Each author and contributor has impacted the teaching of string orchestra in a unique way, but together in creating the ASTA curriculum and assessment guide, they set string orchestra apart from other arts and ensure that string orchestra has the foundations for successful teaching in public schools.

The curriculum itself is comprehensive, ranging in levels from novice to advanced players. It can be used in individual lesson settings but is truly designed for large groups in public schools. It contains advice and sample lesson plans for incorporating a greater variety of music in strings programs as well as developing a solid foundation of skills in ear training and mechanics. Further, the assessment manual uses best practices from research to assess student knowledge and playing ability, a topic that is often widely debated in music teaching. All of these materials contribute to a more uniform approach to teaching string orchestra and are made to be used in public school strings programs.

Method Book Authors and String Orchestra Composers

However, not all string orchestra teachers use ASTA materials in their classroom. Many method books are designed as curriculums and are used in combination with repertoire to make local curriculums for string orchestra. Method book authors have great influence over music literature and teaching practices because the teacher edition of method books are designed as curriculums for string orchestra teachers. Method books primarily serve public school orchestras but can be used in individual or private settings as well. Some of the most influential method book authors include Robert “Bob” Gillespie, Bob Phillips, Gail V. Barnes, Mark O’Connor, and

Michael Alexander. Similarly, string orchestra composers for school - level groups are greatly influential, using the basis of what students learn in public schools to create arrangements of European classical music and contemporary original compositions that are used to perform at concerts and graded at assessments. Examples of the most cited composers include Brian Balmages, Elliot Del Borgo, Larry Clark, Carrie Lane Grusselle, Merle J. Isaac, Robert, McCashin, Richard Meyer, and Soon Hee Newbold. All of these composers also compose for band ensembles or have published method books as well.

While all of these individuals have contributed and continue to contribute to the field of knowledge on teaching string orchestra in the public schools, there are thousands of string orchestra teachers across the country making a difference in their school and community. String orchestra teachers are engaging their students in a greater variety of genres than the past including popular music, mariachi, fiddle, and jazz while maintaining the European classical literature from its inception. Additionally, teachers are using new teaching techniques such as informal learning practices, online lessons, and contemporary assessment practices using software including SmartMusic. The combination of effort from professors in higher education, ASTA, method book authors, and repertoire composers make string orchestra teaching more approachable and successful than it was in the past. String orchestra in public schools is successful because of the effort from teachers in thousands of programs across the United States.

Current Status and Practices in American String Orchestras

It is important to reflect on the origins of string orchestra in American public schools, but it is equally important to understand the current status and potential future of the institution. Multiple studies have been reported in the past few decades that accumulate a multitude of empirical information about string orchestra programs in public schools. Many of these reports

are completed and written by contemporary influential string pedagogues like Robert Gillespie, Donald Hamann, Bret Smith, James Mick, and Michael Alexander, although there are certainly additional notable modern string pedagogues. Multiple reports indicate that orchestra enrollment in schools has increased since the 1980s (Leonhard, 1991; Gillespie & Hamann, 1998; Smith et al., 2018). Despite these increases in orchestra enrollment, course offerings relating to strings have decreased including offerings for full symphony orchestras, chamber groups, fiddle music, guitar class, and strolling strings (Leonhard, 1991; Gillespie & Hamann, 1998; Smith et al., 2018). In Hamann and Gillespie's (1998) report of current string orchestra programs, they noted that there would be a need for 1,000 string teachers in the next 5 years. This is corroborated by the National String Project Consortium calling for an additional 3,000 strings teachers to support the growing population of string students and the job market (Smith et al., 2018).

The National String Project Consortium also noted a decline in funding for string orchestra programs that has been validated by Smith, Mick, and Alexander's (2018) study. Most string programs follow a prescribed curriculum (Smith et al., 2018), but not all of them use the ASTA String Curriculum, as recommended by the American String Teachers Association (ASTA) (Benham, 2011). ASTA has also recently published assessment materials to pair with the ASTA string curriculum. Currently, both homogeneous (same instrument) and heterogeneous (different instruments) classes are offered to string students, and 46% of high schools offer full symphony orchestra (Smith et al., 2018). Forty eight percent of schools reported string orchestra job openings (Smith et al., 2018), but it is difficult to tell if this affects string teaching or programs. Despite lack of preparation of string teachers in the past, 96% of teachers report having a teaching certificate and most string teachers have a masters degree (Smith et al., 2018). Further, over half of string orchestra teachers report the violin as their primary instrument (Smith et al., 2018). String orchestra programs have greatly changed since their inception in the late

1800s. Although there are some novel practices, some practices from the past that made string orchestra unique still exist.

Discussion

With the help of music professionals and the organization and support of string orchestra professional associations, string orchestra programs in public schools have flourished since their inception in the late 1800s. Although some authors like Turner (2001) put much of the blame on band programs, professionals like Rolland (1947) clearly blame orchestral practices for the decline of enrollment and retention of string orchestra programs in the early 1900s. European practices are at the root of string orchestra due to the origins of the practice in America. European musicians performed and taught in American schools to start, and the instruments themselves originated in Europe. It was not until American companies realized a way to mass produce instruments that they became American - made. The most convenient way to offer orchestra ensembles in the late 1800s was to allow students who already had experience on the instrument the opportunity to join the school orchestra. However, this created an elitist attitude that made it difficult for novice students to join school orchestras and left teachers unprepared to teach beginners when they did arrive.

During the 1960s, various pedagogues, such as Kató Havas, Shinichi Suzuki, and Paul Rolland, from abroad assisted orchestra teachers in being more prepared to teach beginners and all levels of string orchestra, resulting in increases in enrollment and increases in proper teacher preparation. Although most of these pedagogues, as well as current teachers, are violinists (Smith et al., 2018), many of the skills transfer to the full instrumentation of the string orchestra. Additionally, teacher preparation programs require skills and knowledge of all string orchestra instruments. Pedagogues like Havas, Suzuki, and Rolland all agreed on a need for proper ear training as well as an acceptance for all students, regardless of their “talent” to play

in string orchestra. Not only did these pedagogues influence contemporary practices and attitudes for both students and teachers in string orchestra but also they influenced method books and curriculum. Ideas that previously needed to be explicitly stated are now innate parts of method books. For example, Havas and Suzuki recommend starting the left hand with 3 fingers on the fingerboard to form the hand shape. Additionally, Rolland suggests starting string orchestra students in the keys of D, G, and C major, a trend that is present in all modern beginning string orchestra method books.

With the assistance of Havas, Suzuki, Rolland, and ASTA, solid foundations for teacher preparation and increases in program size led to a need for empirical study on the status of string orchestra programs and teaching positions. Contemporary pedagogues and researchers led the way for empirical research in string orchestra. Results indicated that although string orchestra enrollment continues to rise, funding for these programs is decreasing and there is a need for orchestra teachers in the field (Gillespie & Hamann, 1998; Smith et al., 2018). However, the orchestra teachers that are in teaching positions are highly qualified with both teaching certificates and oftentimes masters degrees (Smith et al., 2018). This is a stark contrast to the humble beginnings of the unprepared orchestra teacher in the early 1900s. Based on pedagogy and enrollment, reports indicate that string orchestras are thriving.

Future Trends

Although current studies show that there is a severe lack of string orchestra teachers for the amount of students and programs that exist (Smith et al., 2018), there is no evidence to suggest that this is impacting school orchestras negatively. In fact, the most notable negative report is that string orchestra funding is decreasing, but this hardly seems unique to string orchestras. Many other sources suggest that financial support for the arts is declining as well. The news is good; string orchestras are flourishing, there is an abundance of jobs in the field,

and teachers are more qualified than ever to instruct the various ability levels of orchestra students. It appears that researchers are eager to regularly report on the status of string orchestras, allowing professionals to monitor the progress of these programs. Future trends will continue to carefully examine and shape the curriculum used in orchestra programs in schools as well as in teacher preparation programs in an attempt to refine orchestra to twenty - first century practices.

Conclusion

Orchestra began in Boston public schools in the 1850s as a mixed instrument class, containing students who all had previous experience on an instrument (Mark, 2008). However, this did not support a full string orchestra program that eventually needed professionals trained to instruct both beginners and those with experience in large, mixed instrument groups. In the 1960s, pedagogues like Kató Havas, Shinichi Suzuki, and Paul Rolland assisted American string teachers in developing these new classes, and their teaching techniques can still be seen in schools today. Kató Havas' practices can be seen in her "whole body" approach that emphasizes the use of the body as an instrument for holding the violin. Suzuki and Rolland made the greatest impact on beginning pedagogy, bringing techniques to teach large groups of students. With the support of these pedagogues as well as contemporary pedagogues and researchers, practitioners have a realistic idea of what the public school orchestra is like and have the qualifications to teach students of all ages and ability levels. The future of orchestra in American public schools seems bright, with reports that enrollment continues to increase. This is excellent news for new string orchestra teachers looking for a job. Finally, researchers and other professionals are eager to continue to improve the status of school orchestras, allowing for continued growth in the field.

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