WANTED:
3,000 String Teachers!

The Status of String and Orchestra Programs in United States Schools

A White Paper

Produced by the

NATIONAL STRING PROJECT CONSORTIUM
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support from

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Introduction
Robert Jesselson, Executive Director, NSPC

“The United States is facing a severe shortage of teachers for its schools.” This was the first sentence of a White Paper produced by ASTA in 2002. The bad news is that the United States is still facing a shortage of string teachers. But the good news is that this shortage has decreased in the last eight years, even while the percentage of school districts with string programs has increased.

The 2002 study estimated the need for 5,000 new string teachers by the year 2005. Now, according to the latest research, 3,000 new string teachers will be needed by 2013. What is particularly noteworthy is that earlier studies had estimated only about 18% of U.S. schools even offered strings; the most recent study shows that this number has jumped to about 29% of school districts. That is a significant increase!

This White Paper highlights the 2009 study conducted by two string education researchers, Dr. Michael Alexander (Baylor University) and Dr. Bret Smith (Central Washington University). Their study looked at the status of string programs in schools across the nation, with information about the growth of orchestra programs, the characteristics of these programs, and a profile of the teaching profession. It also looks at the demand for string teachers in the future, and documents the potential for a future string teacher shortage. This nation will need 1,000 new teachers every year for the next three years! If these 3,000 jobs are not filled, thousands of young people will be deprived of the opportunity to learn to play a stringed instrument, along with the chance of experiencing the joys of playing in an orchestra, knowing first-hand the great string solo, jazz, and chamber music literature, and helping to pass on the great traditions of our cultural heritage.

Our goal is to ensure that all children, no matter their economic status, geographic location, or skill levels, have the opportunity to learn to play a stringed instrument. Even with 29% percent of U.S. school districts offering strings, 71% of school districts in this country still do not offer students a comprehensive music program. In order to provide access to string instruction for all students we must find ways to prepare greater numbers of qualified string teachers, providing support/advocacy for innovative funding, instrument accessibility, curriculum revision, and the continued development of audiences for orchestral music.

One solution to this problem is to encourage young people to enter the music profession not only as performers, but also as teachers. The National String Project Consortium is addressing these issues in 36 sites around the nation. With this White Paper, we are continuing the process of focusing national attention on the string teacher shortage and creating solutions for the future.
Status of String and Orchestra Programs  
FACT SHEET

Growth of Orchestra Programs
• The number of students playing stringed instruments in the schools has steadily increased since the early 1980s at all levels – elementary, middle school, and high school.
• 55% of teachers reported number of students playing stringed instruments in their districts increased or remained stable between 2003 and 2008.
• 50% of teachers reported an increase in the number of string teaching positions in their districts between 2003 and 2008.
• The number of school districts offering string instruction has increased from 18% in 1997 to 29% in 2009.

Future String Teacher Demand
• In the school year 2007-2008, 90% of string teaching positions were filled but 18% of those positions were filled by teachers whose primary instrument was not a stringed instrument.
• Average years of teaching experience increased from 10+ years in 1998 to 19 years in 2009.
• 39% of current string teachers anticipated new positions between 2010 and 2013.
• Estimated national shortage of string teachers in the years 2010-2013 will be 3,000.

Program Characteristics
• Between 2003 and 2008 financial support from school districts decreased in 66% of string programs.
• String class instruction most often was offered during the regular school day.
• Usually all bowed stringed instruments (violin, viola, cello, double bass) were taught together in one class.
• Beginning string class instruction most often occurred in the 4th or 5th grade.
• In addition to large class instruction, small group instruction, e.g. chamber music, was offered by 50% of string teachers.
• Majority of string teachers teach in suburban school systems.
• Most string teachers shared a teaching space with another teacher.
• 53% of string teachers teach in districts that have a printed orchestra curriculum or course of study that is used to guide instruction; 22% use the curriculum for teacher evaluation.
• An average of 35% of string students were reported to be non-White.

Profile of String Teachers
• Most teachers were female and White.
• 60% of current teachers hold a masters or doctoral degree.
• The average number of years teaching strings was 15 years.
• 70% of current string teachers play stringed instruments as their primary instrument.
The Status of Strings and Orchestra Programs in United States Schools

A Summary of Findings

Researchers Michael L. Alexander (Baylor University) and Bret P. Smith (Central Washington University) prepared a questionnaire which was made available to participants in May of 2009. An invitation to participate in the survey was e-mailed to a pre-existing list of 8,766 school string and orchestra teachers (Quadrant Arts Education Research, 2009). The questionnaire contained 104 questions focused on four categories: program characteristics; support, curriculum, and funding; staffing and hiring practices; and student and teacher characteristics.

Two requests to complete the survey were sent to the teachers. A total of 794 surveys were completed over a three-week period, resulting in a 9% response rate. The following report is a summary of findings presented in the Fact Sheet included with this document. In order to discuss historical trends, four past national surveys on string programs will be referenced by their year of publication: Leonhard, C. (1991), The Status of Arts Education in American Public Schools; Gillespie, R., & Hamann, D. L. (1998), The Status of Orchestra Instruction in the Public Schools; Delzell, J. K., & Doerksen, P. F. (2000). Beginning Band and Orchestra Programs in the United States; and Hamann, D. L., Gillespie, R., & Bergonzi, L. (2002) Status of Orchestra Programs in the Public Schools.

Results

Growth of Orchestra Programs

This database used for our study represented 4,269 school districts with orchestra programs out of a total of 14,556 in the U.S. (School Data Direct, 2009). We calculated that
there were string programs in about 29% of the school districts in the US. We asked teachers whether the number of string students in their programs had decreased, increased, or stayed about the same in the period 2003 to 2008. At the elementary level, 8.1% reported decrease, 32.5% indicated increase, 24.2% stayed about the same, with 35.3% not responding. At the MS/JHS level, 13.5% reported decrease, 37.9% increase, 23.2% stayed about the same, with 25.4% not responding. At the high school level, 9.9% reported decrease, 29.2% increase, 18.3% stayed about the same, with 42.6% not responding.

We asked teachers about change in the numbers of full- or part-time string teachers in their districts over the last five years; most reported that positions had somewhat increased (47.6%), 3.3% reported positions had greatly increased, 29.0% reported somewhat decreased, and 6.0% reported greatly decreased (N = 794, 14.1% did not respond).

**Future String Teacher Demand**

We sought data on the certification of teachers and their preparation as string teachers. Respondents reported a mean of 0.93 orchestra positions open in their district during the 2007-2008 school year (n = 738, SD = 1.8). Of those positions, 47.4% were reported to have been filled by certified teachers whose primary instrument was a stringed instrument (n = 455, SD = 47.0), 2.55% were filled by non-certified teachers whose primary instrument was a stringed instrument (n = 500, SD = 14.0), and 18.2% were filled by certified teachers whose primary instrument was not a stringed instrument (n = 458, SD = 33.8).

When asked whether their district had string teaching positions that went unfilled in the 2007-2008 school year, 3.9% responded yes, 91.2% responded no, and 4.9% did not respond (N = 794). Of the 31 participants responding yes, 24 responded to the follow-up question about
how many positions were not filled; responses ranged from 0.2 to 9, with a mean of 2.2, $SD = 2.4$.

Respondents reported a range of 1 to 50 years teaching experience, with an average of 18.6 years ($n=793$, $SD = 10.1$).

We asked participants whether they anticipated any new string openings in the school years 2010 to 2013, 38.7% indicated yes, 58.5% indicated no, with 2.8% not responding ($N = 794$). The 276 participants who answered the follow-up question indicated a range of 0.2 to 12 anticipated positions, with a mean of 1.8 openings expected ($SD = 1.62$).

**Program Characteristics**

In our study, most teachers indicated that funding for their programs had somewhat decreased (46.5%) or greatly decreased (17.0%), while 27.5% indicated that support had somewhat increased and 4.2% indicated funding had greatly increased ($N = 794$, 4.7% did not respond).

Elementary string classes were reported to be held outside the school day by 8.7% of the respondents, MS/JHS 3.1%, and high school 1.1%. Group classes were reported as homogeneous (like-instrument) by 13.0%, heterogeneous (mixed-instrument) by 55.0%, and as a combination of both heterogeneous and homogeneous by 25.2%. Teachers reported the three most common grades for beginning string instruction were: fourth grade (34.5%), fifth grade (26.3%), and sixth grade (20.1%).

The following programs were reported as taught during the school day: chamber orchestra (20.0%), strolling strings (1.8%), Mariachi ensemble (2.0%), fiddle class (3.4%), guitar class (7.8%), string quartet, et al. (21%). These enhancements were reported taught before or
after school as follows: chamber orchestra (24.9%), strolling strings (3.6%), Mariachi ensemble (2.0%), fiddle class (10.4%), guitar class (2.3%), and string quartet, et al. (29.3%).

When asked to describe their schools by type, 13.9% of our respondents indicated they teach in rural schools, 61.4% suburban, and 24.6% urban (n = 1280, some responded for multiple schools).

Participants were asked, by grade level, whether they teach in a room designed primarily for orchestra use or in a room designed to be shared by multiple ensembles (orchestra plus band and/or choir). Of the 507 respondents answering at the elementary level (63.8% of the sample), 11.8% indicated a designated orchestra room, and 57.8% indicated a shared ensemble room. An additional 30.3% responded NA, which might indicate neither option was the case—for example, teaching in a cafeteria or academic classroom. Of the 581 respondents at the middle level (73.2% of the sample), 43.2% indicated a designated orchestra room, 45.2% indicated a shared ensemble room, with 11.5% indicating NA. Of the 469 high school respondents (59.0% of the sample), 33% indicated a designated orchestra room, 49.0% indicated a shared ensemble room, with 17.9% indicating NA.

When asked whether their school district had a printed orchestra curriculum or course of study, 66.5% indicated yes, 32.9% no, and 0.6 percent did not respond (n = 794). Those responding yes (n = 528) were asked two additional questions. When asked if they used this curriculum or course of study to plan instruction, 80.3% indicated yes, and when asked whether it was used for teacher evaluation, 33.0% responded yes, 63.3% no, with 0.2% not responding. When considered in light of the total sample of 794, 53.4% of our respondents indicated that a printed curriculum was available and used to plan instruction, and 22.0% indicated that one was available and used for teacher evaluation.
Teachers estimated the percentages of students in their classes by race and gender: White (56.6%), Hispanic (13.3%), Black (10.6%), Asian (9.8%), American Indian (1.3%), Male (35.4%), Female (57.2%).

Profile of String Teachers

Of the teachers in our sample, 64.2% were female, 35.1% male (N = 794, 0.7% not responding); they reported their race as 91.6% White, Non-Hispanic, 2.8% Hispanic, 2.5% Asian, 2.0% Black, Non-Hispanic, with 1.1% not responding (which could indicate an “other” response, N = 794). They reported the highest degree completed as 13.6% bachelors degree, 23.0% some graduate study, 57.1% earned masters degree, 2.9% doctorate “all but dissertation,” 3.3% earned doctorate, and 0.1% not responding (N = 794).

The range of years experience teaching strings was 0 to 42 years, with an average of 14.8 years (n = 785, SD = 9.6). When asked about their principal instrument, 36.2% reported violin in some combination, 12.1% viola, 13.5% cello, 8.6% bass, and 0.8% guitar for an overall percentage of 71.2% strings as primary instrument. The remaining respondents reported brass instruments at 9.0%, woodwind at 10.5%, keyboard 4.8%, voice 2.0%, and “other” or no response 2.5%.

Discussion

Growth of String Programs

The data from our 2009 study confirmed a 20-year growth trend in school string enrollments first documented by Leonhard (1991) in the late 1980’s, again in the 1990’s by Gillespie & Hamann (1998), and once again in 2000 (Hamann, Gillespie, & Bergonzi, 2002). In
addition, the percentage of school districts offering string instruction has increased from 16% in 1997 (Smith, 1997), to 18% in 2000 (Delzell, & Doerksen, 2000), to 29% in 2009. A similar trend in program growth can be seen in the forecast of additional new positions in both 2002 (Hamann, et al., 2002) and the current study.

Future String Teacher Demand

Whereas the 2002 study indicated that approximately 74% of string openings between 1999 and 2001 were filled by teachers whose primary instrument was a stringed instrument, the respondents in our study reported that only 50% of openings in the 2008-2009 school year were filled by teachers whose primary instrument was a stringed instrument. These data support the conclusion of the earlier study: an increasing number of string teaching positions are being filled by teachers for whom strings are not their primary instrument.

The average total years of teaching experience increased from 10+ years (1998) to 16 years (2002) to 19 years in 2009. This increase may be indicative of an aging group of teachers, who, as a body, are much closer to retirement in 2009 than they were in 1998. An increase in the normal number of retirements in the next few years may increase the need for teachers beyond the 2,960 forecast due to job openings discussed earlier.

In the current study, 39% of respondents indicated an expected increase in the number of string positions in their districts for the 2010-2013 school years, with an average increase of 1.8 positions over that period. After calculating for the possibility of multiple respondents from the same school district it was found that approximately 148 new positions would be needed by the respondents or a total of 2,960 across the United States over the next three years. This demand for new teachers coupled with a current teaching force nearing retirement age and a decrease in
the number of teachers whose primary instrument is a stringed instrument leads us to believe the demand for string teachers whose primary instrument is a stringed instrument remains acute.

**Program Characteristics**

Similar to the 2002 study, more than 95% of string classes were offered during the school day. Although heterogeneous classes accounted for 55% of classes, the current study reflected an increase of 8%, since 2002, in the number of students taught in homogenous classes. Factors associated with this change may be that the sample contained a greater numbers of teachers who teach beginning level classes (those most likely to be homogenous), enrollments may have grown (which provide greater opportunity for homogenous classes), or a combination of both.

As in the 1995, 1998, 2000, and 2002 studies, beginning string classes were found to occur most often in the fourth, fifth, and sixth grades. Both 2002 and 2009 respondents reported that the fourth grade was the most common grade to begin string instruction, followed closely by fifth, then sixth grade.

Between 2002 and 2009 program enhancements such as string quartet or other small groups declined by more than 15%. Trends were similar for other enhancements with the exception of slight increases in Mariachi and fiddle class offerings. It would appear that school orchestra directors are doing an increasingly good job of recruiting students to their programs, but are also increasingly limiting the scope of their programs to string orchestra only. This is in direct contrast to recent advocacy for these enrichments at both state and national levels as evidenced by the addition of alternative styles sessions at ASTA conferences and articles in the ASTA, MENC, and state journals. The data suggest a need to re-assess the importance of these enrichments to a well-rounded orchestra program and, if deemed appropriate, increasing our
advocacy efforts for the promotion of these enrichments while including these areas as part of collegiate teacher-training programs.

Respondents reported an 8% increase, since 2002, in the presence of a printed orchestra curriculum or course of study. However, only 53% indicated that it was used to plan instruction and only 22% stated that it was used for teacher evaluation. The data suggest that even where curricula exist, they are not universally applied. Advocacy efforts directed toward creation and implementation of curricula based on the National Standards for Music Education or subsequent state standards may help increase the number of programs directed by such. In light of the current emphasis on standards-based instruction and assessment in schools, we believe that continued efforts to strengthen sequential string curricula, align instruction with those curricula, and use these curricula to evaluate student achievement and teacher effectiveness should be a priority.

Between 2002 and 2009, the percentage of racial minority enrollment in string programs increased to the point where string classes were roughly similar to the general population. It is important to note that overall enrollment in string programs was reported to have increased during this same time period; consequently, the changes in percentage values may simply reflect increased enrollment growth by minorities rather than any decrease in enrollment figures from those students classified as White.

Profile of String Teachers

The 2000 U.S. Census reported that the ratio of males to females was approximately 50% each (96.3 males for every 100 females; Smith & Spraggins, 2001). Hamann and Gillespie (1998) identified a slight majority of female string teachers. By 2002, 58% of string teachers
were identified as female (Hamann, Gillespie & Bergonzi, 2002). Our 2009 data provided further documented that string teachers are becoming less representative of the general population by gender (35% male, 64% female). Factors contributing to this trend may include: the sample who reported, increased gender-stereotyping of the teaching field, or other such societal factors. The current study suggests that while many more future string teachers are necessary and that potential teachers of both genders should be targeted via increased advocacy efforts, some of these efforts may be specifically designed to recruit and retain male string teachers.

As in the 1998 study, string teachers in our study were reported as being overwhelmingly White, Non-Hispanic (92%); no other racial group comprised more than 3% of the work force. Because of the diversity represented in the student population, we had expected to see a more racially diversified teacher workforce. Factors for the under-representation of minority racial groups may include: the sample who reported, the view of each racial group toward string instruction, potential language barriers to admission into teacher training programs, or a reflection of the racial representation of past enrollments of public school string students who desire to become professional educators. In order to promote representative racial diversity among string teachers, we encourage advocacy efforts which include actions targeted toward the recruitment and retention of greater numbers of racial minority students into programs of string teacher preparation.

As in the 1998 and 2002 studies, more than half of the teachers reported earning a masters degree. With an experienced work force nearing retirement age, more than half of which possess advanced degrees, we believe that new string specialists who possess advanced degrees will be the most sought-after candidates to replace future retirees. Those school districts seeking to hire a teacher thus prepared should consider appropriate financial incentives to draw their
attention. They may also consider financial assistance and or collegiate partnerships to assist their current staff in obtaining additional training and/or advanced degrees.

References


The NSPC is a coalition of String Projects based at colleges across the United States. These sites are working to increase the number of children playing stringed instruments, and addressing the critical shortage of string teachers in the US.

- There are currently 36 String Project sites in the NSPC.
- The NSPC has been responsible for the stringed instrument education of over 7,000 children.
- Currently there are 321 undergraduates in the String Projects.
- Since 1999, the NSPC has received grants totaling about $2.7 million
- The program has earned national and international recognition, with articles in the New York Times, Strad and Strings magazine.
- 81% of the String Projects in the NSPC have had success in increasing the number of music education majors at their school.
- In the model program a recent survey showed that
  - 25% are below the poverty line
  - 49% are non-Caucasian (36% are African-American)

Our ultimate goal is for every state to have at least one such program to educate teachers, and that fully staffed string programs will exist in all public schools.

**Current String Project sites:**

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<th>Arizona State University</th>
<th>Lawrence University</th>
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For more information: http://www.stringprojects.org/
Robert Jesselson, Executive Director  803-777-2033
National String Project Consortium

- Operational Consortium Sites
- Sites Awaiting Funding
AMERICAN STRING TEACHERS ASSOCIATION FACT SHEET

The American String Teachers Association (ASTA), founded more than 60 years ago, is a membership organization for string and orchestra teachers and players, helping them to develop and refine their careers. ASTA’s members range from budding student teachers to artist-status performers. The organization provides a vast array of services, including instrument insurance, an award-winning scholarly journal, discounts on publications and resources, annual professional development opportunities, and access to collegial network of colleagues throughout the string profession.

ASSOCIATION MISSION:

Promote excellence in string and orchestra teaching and playing. ASTA pursues its mission through:

• an open sharing of ideas;
• benefits, services, and activities responsive to the needs of all members;
• development of strong state leadership and chapters;
• enhancing the image and visibility of string teaching and study;
• advocacy for string education; and
• an inclusive community of string teachers and players.

HEADQUARTERS: Fairfax, Virginia

NUMBER OF EMPLOYEES:

Full time — 5
Part time — 5

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INDUSTRY ACTIVITIES:

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