Status of Orchestra Programs in the Public Schools

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The purpose of this study was to monitor the status of string instruction in string programs throughout the United States. Subjects for this study were string teachers from string school programs throughout the United States. From a total of 8,556 public, private, and parochial schools at the elementary, middle school/junior high school, and high school levels, a sample of 2,139 schools were randomly selected for study participation. A survey was administered to string teachers at these randomly selected sites. From data analyses it was found that: the number of string teachers has declined while string student enrollment has increased, almost one-fourth of the schools in 1999-2000 and over 43% of the schools in 2000-2001 were not able to find qualified teachers for their string programs. While many programs unsuccessfully attempt to find teachers, the need for string teachers increases.

Part of a professional association’s responsibility is to monitor the health of its profession via research reports, which “. . . can serve individual members in their own planning activities, serve as the basis for public relations campaigns for the group, and help influence legislation or regulatory agencies” (p.357, American Society of Association Executives, 1975). In the case of an educational association, the health of a profession influences the quality of the experiences provided for subsequent generations of Americans.

Prior to the current study, such status research was conducted by private, university-based researchers. With this study, the American String Teachers Association WITH National School Orchestra Association (ASTA WITH NSOA) begins its effort to regularly monitor the health of school-based string teachers, learners, and programs. This information will be central as the association continues to promote excellence in string teaching and playing, not only in the school classroom, but in the private studio, rehearsal hall, and community music school.
Five studies investigating the status of orchestra programs nationally have been conducted within the last decade. Beginning in 1989, a national survey on the status of arts education in American schools, including orchestra, was undertaken by the National Arts Education Research Center (Leonard, 1991). The Center surveyed 1,326 schools randomly selected from approximately 110,000 schools in the United States. School building principals were sent questionnaires regarding the status and characteristics of their arts programs. Leonard found that less than 50% of schools across America offered string instruction: 36% of elementary schools surveyed included string instruction in their curriculum, 41.9% occurred at large middle schools (more than 500 students enrolled), and 36.9% at large secondary schools (more than 1,000 students enrolled). Leonard also found a substantial increase in string enrollment in schools during the 1980s, and reported a 43% enrollment increase in orchestra classes between 1987 and 1989 in large middle schools and a 41% increase between 1984 and 1989 in large secondary schools.

To describe 1990 string student enrollment and string program status in high schools, Bergonzi (1995) analyzed transcript data from 7,171 high school students gathered as part of the 1990 National Assessment of Educational Progress: Basic Math Assessment (NCES, 1994). String programs were offered in 31% of (public, Catholic, and other private) high schools. String instruction was more likely to be offered in high schools located near or in urban locales. School size was the most important predictor of the existence of string programs, with larger schools (greater than or equal to 1500 students) being most likely to offer string instruction. In schools that offered strings classes, about 4% of high school students were enrolled in them. String students were typically female, but the racial/ethnic breakdown of string students was comparable to that of the general high school population.

Smith conducted the next national study on school orchestra programs (1997). During the 1994-95 academic year, 14,183 school districts across the country were surveyed. Smith sought to determine the number and characteristics of districts offering string instruction and when the instruction occurred. Results indicated that 16% (2, 268 districts) of districts surveyed offered string instruction. Of those districts, 71% included string instruction at the elementary level, 79% at the middle school level, and 80% at the high school level. Smith also found that 48% of the districts offering string instruction were medium sized, 30% small, and 22% large. Socioeconomic level was found to be the most reliable predictor of the existence of elementary
string instruction: the higher the socioeconomic level the more likely string instruction was offered.

In 1995, Gillespie and Hamann surveyed school systems to gather descriptive information of orchestra programs nationally (Gillespie & Hamann, 1998). Nine thousand four hundred and fifteen middle schools and high schools that offered string instruction were identified. A randomly stratified sample of schools from all fifty states was selected. A questionnaire was sent to string teachers at those schools. A profile of orchestra programs and string teachers was developed based on data collected.

As in the Smith (1997) study, most string instruction was found to occur in large suburban schools. Most teachers considered their teaching facilities inadequate. Forty-six percent reported declining financial support for their orchestra programs. Beginning string classes were offered in either the 4th (26%), 5th (30%), or 6th (28%) grades. One out of every five teachers also was teaching band classes.

Teachers reported that between 1990 and 1995 the number of string students in their schools had dramatically increased, similar to the findings in Leonard’s 1989 survey (1991). Most string students were white, lived in suburbs, and were leaders in their schools. Over two-thirds of students who elected to enroll in beginning string classes continued their orchestra involvement through high school. A profile of those teaching strings was determined from the data: The majority of teachers were female, white, highly educated (four out of every five had Masters degrees), had been teaching for more than 10 years, played a string instrument principally, and currently performed in some type of an ensemble. One-third of teachers indicated that they did not play a string instrument principally when they were undergraduates.

Doerksen and Delzell (2000) undertook the most current national study on the status of orchestra instruction in the schools. Instrumental music coordinators in 1,385 school districts were surveyed. These researchers indicated that 18% of U.S. school districts offered string instruction. This is similar to the 16% figure that Smith (1997) found. The geographic region offering the most string instruction was the Northeast. The least instruction was found in urban school districts.

Doerksen and Delzell (2000) determined that beginning string classes were offered most frequently in the 4th, 5th, or 6th grades, as found in the study by Gillespie and Hamann (1998). Most school systems
offered beginning string classes one year before beginning band classes. Students were most often pulled out of their other classes to participate. Instructional time for beginning classes involved one meeting per week, for less than an hour, at the fourth grade level, twice-weekly meetings (for a total of one to two hours of instruction) at the fifth grade level, and daily meetings, for a total of three to four hours weekly, for sixth grade classes.

Two statewide studies have investigated the status of orchestra programs. In 1992, Hamann studied orchestra instruction in Ohio schools. Horvath reported results of the study in 1993. Findings indicated that most string teachers in Ohio played string instruments themselves, typically traveled to two or more schools per day to teach, and had been teaching on average for thirteen years. Hamann found, as did national studies by Smith (1997) and Gillespie & Hamann (1998), that most string instruction occurred in suburban schools. Instruction at the middle school and high school levels was offered daily.

Abel (1994) surveyed school districts in Virginia. Results showed that approximately 25% of districts offered string instruction, with the majority of beginning classes occurring in either the fourth or fifth grade. As in Ohio, most string teachers were itinerant, teaching in three different schools. Sixty-seven percent of teachers reported increased student enrollment in their classes, attributed to increased program support, student recruiting activities, and population growth.

A summary of the findings from the related literature is as follows:

1. Between 16 to 31 percent of schools in the United States offer string programs. 2. Of those schools offering strings, there seems to be a fairly equal dispersion of string offerings at the elementary, middle school, and high school levels. 3. Larger schools in suburban and higher socio-economic areas, tended to have more string programs. 4. Beginning string programs started in either the 4th, 5th, or 6th grades, often 1 year before the beginning band program. 5. Students in string programs were generally class leaders and were typically female and white, with racial/ethnic enrollment participation that reflected the individual population of each school. 6. While student enrollment has steadily increased since 1991, 46 percent of the string programs reported a decrease in financial support. 7. Over two-thirds of the students enrolled at the elementary level stayed in the program through high school. 8. String teachers tended to be female, white, highly educated, with 10-13 years of teaching experience.
Two-thirds of the string teachers said their principal instrument was a bowed string instrument, while one-third said their principal instrument was something other than a bowed string instrument.

There appear to be some consistent findings concerning string programs in the United States. However, additional data are needed to further determine the status of string programs in the U.S. The purpose of this study was to monitor the status of string instruction in string programs throughout the United States.

**Method**

Subjects for this study were string teachers from string school programs throughout the United States. From a total of 8,556 public, private, and parochial schools at the elementary, middle school/junior high school, and high school levels, a sample of 2,139 schools was randomly selected for study participation. A survey was administered to string teachers at these randomly selected sites.

Survey questions and content heading areas were determined based on information from string survey questionnaires administered previously. Three sample surveys were constructed, assessed, and/or pilot tested and revised before the “current” survey was deemed appropriate for the purpose of this study. The survey contained 49 questions pertaining to five different areas: Orchestra Teacher Profile, Orchestra Program Profile, Orchestra Program Support, Staffing and Hiring Practices in the Orchestra Program, and Orchestral Students. The survey can be found in the appendix of this paper.

Each selected site/string teacher was initially sent a cover letter asking for participation. Along with the cover letter, the survey and a self-addressed, stamped envelope were also sent. A period of 3 1/2 weeks was allowed to pass before a second mailing was initiated. If after 3 1/2 weeks the survey was not returned, a second survey, revised cover letter, and self-addressed, stamped was sent. A period of 3 1/2 weeks was again allowed to pass before a third mailing was initiated. The third mailing contained a revised cover letter, the survey, and a self-addressed, stamped envelope. A maximum of three requests was sent to each site.

**Results**

The data collection process was completed within a four-month period. A total of 920 surveys were returned over the 4-month period for a return rate of 43%.
Orchestra Teacher Profile

Of the teachers returning surveys, over 58 percent (534) were female and slightly less than 42 percent (386) were male. Forty-three percent (396 subjects) held a Bachelors degree, 54 percent (497 subjects) held a Masters degree, and 3 percent (27 subjects) held a Doctoral degree. The average number of total years of teaching was sixteen, while the average years a teacher taught strings was fourteen.

About 80 percent of the orchestra teachers indicated their primary instrument was a bowed string, while 7 percent listed a brass instrument and 7 percent listed a woodwind instrument as their primary instrument. Four percent of the orchestra teachers stated their primary instrument was either piano or percussion. The remaining 2 percent of orchestra teachers played harp, guitar, or were a vocalist.

When the orchestra teachers were asked to indicate their primary teaching area, 79 percent listed strings/orchestra as their primary teaching area. Twenty-one percent of the teachers stated that while they taught strings, their primary teaching area was not strings/orchestra. Of these 21 percent, 12 percent listed band as their primary teaching area, 3 percent said choir was their primary teaching area, 1 percent indicated general music as their primary teaching area, and 5 percent had such varied responsibilities that more than one area was listed as a primary teaching area.

Subjects were next asked the likelihood of retirement in the next five years. Seventy-three percent said it was “not likely” and 5 percent stated that it was “less than somewhat likely” they would retire in the next five years. However, 5 percent were “somewhat likely,” to retire in the next five years, 3 percent were “more than somewhat likely” and 14 percent were “extremely likely” to retire in the next five years. Thus, about 78 percent of these teachers said it was either not likely or less than somewhat likely they would retire in the next five years, while 22 percent said it was somewhat to extremely likely they would retire within five years.

Orchestra Program Profile

Subjects were asked to indicate their teaching loads per week at the elementary, middle/junior high, and high school levels. It was found that orchestra teachers tended to teach at more than one level. About 45 percent, or 411 of the teachers, taught at the elementary level. The average number of students taught at any single elementary school was about sixty-four students, while the mode was 40 students, and
the median was 47 students. The number of students taught at any single elementary school ranged from 1 student to 320 students. The teaching load at elementary schools varied, with about 60 percent of the 411 string teachers providing instruction at 1 or 2 elementary schools per week, 29 percent teaching at 3 to 4 elementary schools per week, and 11 percent teaching at 5 to 9 elementary schools per each week.

The majority of string teachers at the elementary level tended to play a bowed string instrument. Of the 411 teachers, 88 percent (362 teachers) indicated their primary instrument as a bowed string instrument. Only 12 percent, or 49 teachers, listed something other than a bowed string instrument as their primary instrument.

About 74 percent, or 678 of the teachers, taught strings at the middle/junior high school level. The average number of students taught at any single middle/junior high school was 67 students, while the mode was 35 students and the median was 50 students. The range of students taught at any single middle/junior high school was from 1 student to 630 students. Seventy-four percent, or 502 of the 678 teachers, taught at 1 middle/junior high school per week, 15 percent, or 102 teachers, taught two middle/junior high schools per week. About 11 percent or, 74 of the teachers, taught at 3 to 5 middle/junior high schools per week.

Of the string teachers at the middle/junior high school level, 84 percent or 570 of the 678 teachers identified a bowed string instrument as their primary instrument. Only 16 percent or 108 teachers indicated their primary instrument was not a bowed string instrument.

Of the 920 teachers in the sample, 60 percent (556) taught orchestra at the high school level. Ninety-seven percent taught at 1 high school per week, and 3 percent taught at 2 high schools per week. No teacher taught at more than two high schools.

The average number of students taught at each high school was 51 with a mode of 50 and a median of 40 students. The range of students taught at a high school varied from a low of 1 student to a high of 550 students. Seventy-nine percent, or 439 of the teachers at the high school level, said their primary instrument was a bowed string, while 21 percent, or 117 teachers, indicated their primary instrument was not a bowed string instrument.

When subjects were asked what percentage of their instructional time
was spent teaching bowed string instruments, 59 percent of the 907 respondents (535 teachers) reported that 100 percent of their teaching assignment was in bowed strings. Eighteen percent of the respondents (163 teachers) said bowed strings instruction comprised 50 to 99 percent of their instructional time, while 23 percent or 209 teachers stated that teaching strings was less than 50 percent of their teaching load. The majority of individuals (64 percent) with less than a 50 percent bowed string teaching assignment taught at the high school level.

About 95 percent or 860 of the 905 respondents answering the question “When are your string classes held?” said that string classes were held during the “regular school day”. Three percent of the subjects, or 27 teachers, had classes that were held either before or after the regular school day, and about 2 percent (18 teachers) said classes were held both during and outside of the regular school day.

When asked “Are your beginning strings taught privately or in class/group settings?” 92 percent, or 786 of the 854 respondents, said their beginning strings classes were taught in a group setting. Of those classes taught in a group setting, over 50 percent were taught in a heterogeneous class setting, 11 percent were taught in a homogeneous class setting, and 38 percent were taught in both homogeneous and heterogeneous class settings. Three percent of the subjects (26 teachers) said their beginning strings were taught privately, while 5 percent, or 42 subjects, said their beginning strings were taught in both private and group settings.

Eight-hundred and eighty-six individuals responded to the question “Do you teach full orchestra and if yes, at what levels?” Forty-four percent of the teachers (390 subjects) taught full orchestra. Of that 44 percent, full orchestra was taught at 65 percent, or 254 high schools, 30 percent, or 117 middle/junior high schools, and 6 percent, or 19, elementary schools.

The area of string class enhancements offered during, before or after school was investigated next. Five hundred and nine respondents offered string class enhancements before or after the regular school day. Chamber music was offered in 45 percent of programs before or after school. Chamber orchestra was offered in thirty-seven percent of before or after school programs, followed by fiddle (9 percent), strolling strings (5 percent), guitar (3 percent), and Mariachi (1 percent).
Four hundred and sixty-eight teachers offered enhancements during the school day. Both chamber music and chamber orchestra were offered in 38 percent of the programs, followed by guitar (13 percent), fiddle (6 percent), strolling strings (4 percent) and Mariachi (1 percent).

Eight hundred and sixty-nine teachers responded to the question “In which grade are your students first able to enroll in bowed string classes/instruction?” The most popular grade to begin strings was the fourth (31 percent), followed by the fifth (30 percent), sixth (23 percent), third (9 percent), seventh (3 percent), ninth (1.5 percent), first (1.3 percent), second (.5 percent), and eighth (.2 percent) grade.

The final area of questioning under the heading of Orchestra Program Profile pertained to concert performances. High schools (562 respondents) presented an average of six concerts per year, with a mode of 4 concerts per year and a median number of 5 concerts. The range of concerts given at the high school level was from 1 concert to 35 concerts a year. The average number of middle/junior high concerts (702 respondents) per year was 5, with both the mode and median being 4 concerts per year. The range of concerts given at the middle/junior high school level was 1 to 20 concerts per year. Elementary school concerts (458 respondents) averaged 3 per year, with the mode and median number being 2 concerts per year. The range of elementary concerts was from 1 to 20 concerts per year.

Eight hundred and seventy individuals responded to three questions concerning the number of concerts presented on school grounds, off school grounds within the community, and off school grounds outside the community. The number of concerts given on school grounds per year varied among the schools. The average number of concerts given on school grounds was 5 per year. High schools tended to present 3 to 8 concerts per year on the school grounds, while middle/junior high schools gave 2 to 5, and elementary schools presented 1 to 3 concerts per year on school grounds. The average number of concerts given off school grounds within the community was 3. High schools presented 3 to 8 concerts, middle/junior high school gave 2 to 5 concerts, and elementary schools averaged 1 to 3 concerts off school grounds. The average number of concerts presented off school grounds and outside the community was 3. High schools presented 3 to 8 concerts, middle/junior high school gave 2 to 5 concerts, and elementary schools averaged 1 to 3 concerts off school grounds.
Orchestra Program Support

Six questions were addressed under the survey heading of “Orchestra Program Support.” The first question required a response to the following statement: “My teaching space accommodates the largest group I teach. It has appropriate acoustical properties, a quiet environment, good ventilation, and adequate lighting. It contains storage space for instruments, equipment, and instructional materials.” (MENC, Opportunity-to-Learn Standards for Music Education. 1994, p.7) Nine hundred and eighteen subjects responded to this question. In relation to this statement, 24 percent of the teachers thought their teaching space was “adequate,” 42 percent felt their teaching space was “less than adequate,” and 34 percent reported their teaching space to be “more than adequate.” Thus, 58 percent of the teachers felt their teaching space accommodations were adequate or more than adequate, while 42 percent felt their accommodations were less than adequate.

When the 918 respondents were asked if they had a separate facility or if they shared a room to teach orchestra, 67 percent of the teachers (615 subjects) said they shared a room. Of the 615 teachers sharing a room, 40 percent shared a room with the band, 27 percent with various groups, 12 percent with the choir, and 6 percent with academic classes or other fine arts classes such as drama or art. Fifteen percent of this group shared facilities with teachers, staff, and students as they taught on a stage, in the cafeteria, in a closet, or in the hallway. Thirty-three percent of the teachers (303 respondents) taught orchestra in a separate/non-shared room. In general, teachers who had a separate room were more satisfied with their rehearsal facilities than those who shared a room.

When asked if their school district had a printed orchestra curriculum or course of study to follow, 62 percent of the 907 respondents reported an orchestra curriculum or course of study. Of the 562 teachers who had a curriculum or course of study, 73 percent used their curriculum to plan instruction and evaluation, while 27 percent did not use it for either planning or evaluation. Thirty-eight percent of the 907 respondents indicated that they did not have an orchestra curriculum or course of study. Thus of the 907 respondents, 410 teachers (45 percent) had an orchestra curriculum or course of study and used it for planning or evaluation, while 497 teachers (55 percent) either did not have an orchestra curriculum or course of study, or did not use it.
In the next question, respondents were asked to indicate the number, from 1 “no support,” 2 “below average support,” 3 “average support,” 4 “above average support,” or 5 “extreme support,” that best represented the support they felt they received for their orchestra program from the following: music teaching colleagues, parents of students in the orchestra, building principals, private teachers, school counselors, district administrators, and non-music teaching colleagues. In general, average, to above average support, was said to have been received from all of these individuals according to the 908 respondents.

In general, orchestra teachers felt strong support from their music teaching colleagues, parents of students, building principals, private teachers, school counselors, district administrators, and non-music teaching colleagues, respectively. The average support from each of the individual groupings was as follows: music teaching colleagues (4.15), parents of students in the orchestra (4.01), building principals (3.72), private teachers (3.53), school counselors (3.38), district administrators (3.36), and non-music teaching colleagues (3.19).

Nine hundred and thirteen respondents answered the question “Your teaching evaluation is usually conducted by?” A building principal (82 percent) conducted the vast majority of teaching evaluations, with the remainder of evaluations completed by a music supervisor (10 percent), music coordinator (5 percent), or other individual (3 percent).

When asked if financial support from the district for the orchestra program changed or stayed about the same during the last five years, 55 percent of 909 respondents said their financial support “stayed about the same.” Twenty-five percent reported increased financial support, while 20 percent thought their support “decreased.”

Staffing and Hiring Practices in the Orchestral Program

This section of the survey was comprised of 5 questions concerning the staffing and hiring practices in the school programs as reported by the orchestral teachers responding to the survey. The first question asked “Has the number of string teachers in your school district changed during the last five years?” Of the 891 respondents to this question, 40 percent, or 356 teachers, stated that there was an increase in the number of string teachers in their district. Fifty percent of the teachers said the number stayed the same, and only 10 percent said there was a decline in the number of string teachers in their district. In general, there appeared to be either growth or stability of string teachers.
Subjects were next asked whether their district had any string/orchestra teaching positions that were not filled in the year (1999-2000). Eight hundred and sixty-nine individuals responded to this question. Thirty-one percent (269 subjects) of the respondents said their districts had no open positions, 24 percent (209 teachers) had string/orchestra teaching positions that were not filled, and 45 percent of the subjects (391 teachers) had positions that were filled in the 1999-2000 school year. Of the 391 filled positions, 62 percent, or 242 positions, were filled with certified teachers whose primary instrument was a stringed instrument. Subjects were asked how difficult it was to fill the position with a certified string teacher. Difficulty in filling the positions was reported as follows: 32 percent indicated it was “very difficult,” 28 percent said it was “difficult,” 31 percent reported it was “moderately difficult,” 6 percent stated it was “not very difficult,” and 3 percent noted that it was “not difficult” to fill the position with a certified string teacher.

Twenty-eight percent, or 391 of the positions, were filled with certified teachers whose primary instrument was not a stringed instrument. Difficulty in doing so was reported to as follows: 20 percent “very difficult,” 20 percent “difficult,” 36 percent “moderately difficult,” 18 percent “not very difficult,” and 6 percent “not difficult.” Ten percent, or 39 positions, were filled with non-certified teachers whose primary instrument was a stringed instrument. Difficulty in filling these 39 positions was: 32 percent “very difficult,” 28 percent “difficult,” 31 percent “moderately difficult,” 6 percent “not very difficult,” and 3 percent “not difficult.”

In general, 72 percent of the filled string positions in 1999-2000 were filled with teachers who played a string instrument; however, of those teachers, 10 percent were not certified. Filling these positions with teachers who played stringed instruments was reported to be difficult to very difficult more than 60 percent of the time. Forty percent of the respondents reported it was very difficult to difficult to fill 28 percent of the string positions with teachers whose primary instrument was not a stringed instrument.

Subjects again were asked if they had any string openings, but this time for the school year 2000-2001. Eight hundred forty-nine subjects indicated they had positions open for the year 2000-2001. Fifty-seven percent of the teachers indicated that 484 positions were filled in their schools. Forty-three percent of the teachers said that positions in their districts were not filled, which totaled approximately 365 positions. Of the positions filled, 67 percent were filled with certified teachers whose
primary instrument was strings. Teachers again indicated the difficulty in filling the positions with a certified string teacher. The results were as follows: 37 percent “very difficult,” 25 percent “difficult,” 28 percent “moderately difficult,” 6 percent “not very difficult,” and 4 percent “not difficult.”

Twenty-four percent of the positions were filled with a certified teacher whose primary instrument was not a stringed instrument. Difficulty in doing so was: 31 percent “very difficult,” 17 percent “difficult,” 30 percent “moderately difficult,” 8 percent “not very difficult,” and 14 percent “not difficult.” Nine percent of the positions were filled with a non-certified teacher whose primary instrument was a stringed instrument. Difficulty in filling these positions was reported as: 40 percent “very difficult,” 24 percent “difficult,” 27 percent “moderately difficult,” 5 percent “not very difficult,” and 4 percent “not difficult.”

In general, 76 percent of string positions in 2000-2001 were filled with teachers who played a stringed instrument, and of those teachers, 9 percent were not certified. Schools found it difficult to very difficult to fill these positions with teachers who played stringed instruments 62 percent of the time. While not as difficult to fill (48 percent reported it very difficult to difficult to fill positions), 24 percent of the string positions were filled by a certified teacher whose primary instrument was not a stringed instrument.

Subjects were asked to indicate whether they anticipated any string teacher openings for the school years 2001-2002, or in either 2002-2003 or 2003-2004. Of the 838 respondents, 47 percent anticipated openings in 2001-2002, or approximately 394 openings. Fifty-seven percent anticipated openings in either 2002-2003 or 2003-2004, or approximately 477 string positions. About 1.5 percent of the respondents were not sure if there would be any string openings for the stated years, while the remainder of the subjects did not anticipate any openings.

In summary, 24 percent of the available string positions in 1999-2000 went unfilled. In 2000-2001, 43 percent of the string positions were not filled. Forty-seven percent of the respondents anticipated openings in 2001-2002 and 57 percent anticipated openings in either 2002-2003 or 2003-2004. Given that there are approximately 8,500 to 10,000 string teachers in programs across the United States, then the current sample represents about 10 percent or less of the total string teacher population. The current sample of respondents anticipated about 477 openings in either 2002-2003 or 2003-2004. Given that our sample represents about 10 percent or less of the total, that would be at least
10 times 477. Thus it can be anticipated that almost 5,000 string teachers will be needed during the upcoming two-year period beginning 2002 and ending 2004.

Of the string positions filled in 1999-2000 and 2000-2001, between 72-75 percent of these positions were filled with certified teachers whose primary instrument was a stringed instrument; however, 9 to 10 percent of these string teachers were not certified. Filling these positions with teachers who played stringed instruments was difficult to very difficult more than 60 percent of the time. Between 24 and 28 percent of the string positions filled were filled with certified teachers whose primary instrument was not strings. Between 40 and 48 percent of the respondents reported it was very difficult to difficult to fill string positions with teachers whose primary instrument was not a stringed instrument.

**Orchestral Students**

The ethnic breakdown of students participating in orchestra was as follows: 72 percent Caucasian, 10 percent African American, 9 percent Hispanic, 7.5 percent Asian, 1 percent East Indian, .5 percent Native American. About two-thirds (66 percent) of the orchestra students were female and one-third (34 percent) were male.

About 22 percent of the orchestra students study privately. Of those receiving private lessons, 4 percent received them during the school day, and 18 percent received them outside the school day.

The number of string students generally increased at all levels (elementary, middle/junior high, and high school) during the period from 1995 to 2000. At the elementary level, 69 percent of the respondents indicated there was an increase in students, 9 percent stated there was a decrease, and 22 percent of the teachers believed their student enrollment stayed about the same. At the middle/junior high school level, 65 percent of the subjects said their student enrollment increased, while 13 percent said it decreased. Twenty-two percent of the middle/junior high school teachers said their student enrollment stayed about the same. Sixty-one percent of the teachers at high schools said their student enrollment increased, 16 percent stated it decreased, and 23 percent indicated that it stayed the same. When looking at all 3 levels (elementary, middle school/junior high, and high school), about two-thirds of the schools had increases in student participation, 12 percent had declines, and 22 percent indicated their participation rates stayed the same during the period of 1995-2000.
Orchestra student retention rates were high from first to second year of instruction, elementary to middle/junior high school, and middle/junior high to high school. The average retention rate at each of these points was approximately 73 percent.

**Summary**

The following is a summary of the study:

**Summary Profile of Orchestra Programs**

1. The number of students playing string instruments in the schools has steadily increased since the early 1980s at all levels - elementary, middle school, and high school. 2. Two-thirds of the teachers surveyed reported increases in the number of students playing stringed instruments between 1995-2000. 3. Forty percent of teachers reported increases in the number of string teacher positions in their schools between 1995 and 2000. 4. About 95% of string classes are offered during the regular school day. 5. Ninety-two percent of all bowed string instruments are taught in group settings, and within those group settings 88% are taught in heterogeneous, or a combination of homogeneous and heterogeneous settings. 6. Small group instruction, e.g. chamber music, is offered in 45% of the string programs in addition to large-class instruction. 7. Full orchestra is taught in 44% of the string programs. 8. The majority of string programs are located in sub-urban school systems. 9. Beginning string class instruction most often occurs in the 4th grade (31%), followed by the 5th grade (30%), and then the 6th grade (23%). 10. Sixty-seven percent of string teachers share a teaching space with another teacher. 11. Sixty-two percent of the string programs have a printed orchestra curriculum or a course of study that is used to guide instruction. 12. Between 1995 and 2000 financial support for 25% increased, remained the same for 55%, and decreased in 20% of the string programs. 13. Seventy-two percent of students enrolled in string programs are Caucasian.

**Summary Profile of String Teachers**

1. There are between 8,500 and 10,000 string teachers in the public schools. 2. The majority of string teachers are female (58%), Caucasian (72%), and have Masters Degrees (54%). 3. About 80% of the string teachers play a bowed stringed instrument. 4. Most string teachers teach at more than one school building and at more than one level. 5. Twenty-one percent of the teachers providing string instruction list their primary teaching area as band, choir, or general
Summary Profile of the String Teacher Shortage

1. The estimated shortage of string teachers between 2002 and 2004 is 5,000.
2. Twenty-two percent of the string teachers surveyed planned to retire between 2000-2005.
3. Between 1999-2000, 24% of the string programs had openings for string teachers that were not filled because qualified teachers could not be found.
4. Between 2000-2001, 43% of available string positions were not filled because qualified teachers could not be found.
5. Forty-seven percent of the current string teachers anticipated having string positions available in their schools in 2001-2002.
6. Fifty-seven percent of the current string teachers predicted string teacher position openings in their schools between 2002-2004.
7. Between 1999-2001 most school systems reported difficulty in finding teachers to staff string teacher openings.

Discussion

The implications of this study are numerous and impact future decisions of school systems, universities, and professional organizations. While Gillespie and Hamann (1998) found that the number of string teachers stayed relatively stable while string student numbers increased in the 1980s and 1990s, it was found in this study that the number of string teachers has declined, while string student enrollment has increased. Almost one-fourth of the schools in 1999-2000 were not able to find qualified teachers for their string programs. This percentage increased in 2000-2001 when 43% of the available string positions were not filled because teachers could not be found to teach the string classes. While many programs unsuccessfully attempt to find teachers for their programs, the need for string teachers increases. In 2001-2002, a predicted 47% of programs will need string teachers, and in 2002-2004, 57% of the programs anticipate openings. The shortfall of string teachers is estimated to be over 5,000.

While ASTA with NSOA has already begun a program in which String Projects, designed to promote string teaching and develop string teachers, are being started at various universities, other venues need to be created to help promote string teaching. Universities and professional organizations need to promote string teaching as a profession of choice. Universities need to hire string education specialists who will help foster interest in string teaching and will design innovative curriculums that will better prepare students for careers in string teaching. Universities, professional organizations, and elementary and secondary schools need to create programs that
identify and encourage students to consider becoming string teachers as early as in elementary or secondary school. These same groups should develop programs that allow students to teach in select and controlled classroom or private teaching settings.

All too often, the emphasis in strings is centered on performance venues. Scholarships, incentives, and other various support or funding opportunities are often provided for individual performers to pursue careers in performance fields, while similar rewards and incentives are not presented to those pursuing the profession of teaching. String performance is a noble undertaking, but so too is teaching. It is perhaps time that universities, professional organizations, businesses, and private individuals realize the importance of string teaching as an equal to the performance arena. The same valuing and support systems need to be put into place for aspiring teachers and performers. By valuing and supporting both the performance and teaching venues equally and equitably, our professional organizations, businesses, universities, school, and supportive individual donors will help ensure the growth and continued development of strings.

References


Schools. Urbana, IL: National Arts Education Research Center at the University of Illinois.


Appendix

ASTA with NSOA School Orchestra Program Survey

I. The String/Orchestra Curriculum in Your School(s)

1. How many string students do you teach per week at the? (Respond to all that apply)

   Elementary Level ___________

   Number of elementary schools at which you teach?__________

   MS/JHS Level ____________

   Number of MS/JHS schools at which you teach?__________

   High School Level __________

   Number of high schools at which you teach?__________

2. What percentage of your instructional time (your teaching load) do you spend teaching bowed string instruments?

   ___________ % of my time is spent teaching bowed string instruments.

3. Are your string classes held during the regular school day?

   YES   NO

4. Are your beginning strings taught?

   _____ privately

   _____ in class/group settings
4a. If taught in a group are the classes?
    _____ heterogeneous
    _____ homogeneous
    _____ a mix of both

5. Do you teach full orchestra (winds, percussion, and strings)?
    YES   NO

5a. If Yes, at what level(s)? (Check all that apply):
    _____ Elementary
    _____ Middle/Junior
    _____ High School

6. Do you offer any of the following enhancements before or after the school day? (Circle all that apply)
    Chamber Orchestra Strolling Strings Mariachi
    Fiddle Chamber Music Guitar Class
    Other string program classes not listed (please describe):
    __________________________________________________________

7. Do you offer any of the following enhancements during the school day? (Circle all that apply)
    Chamber Orchestra Strolling Strings Mariachi
    Fiddle Chamber Music Guitar Class
    Other string program classes not listed (please describe):
    __________________________________________________________
8. In which grade are your students first able to enroll in bowed string classes?

Grade:________

9. What is the total number of concerts your student orchestras perform per academic (2000-2001) year?

_____ Elementary
_____ Middle/Junior High
_____ High School

10. What is the average number of concerts your student groups perform per academic (2000-2001) year?

_____ On school grounds
_____ Off school grounds within the community
_____ Off school grounds outside the community

II. Program Support

1. According to MENC, minimum facilities standards should exist for all teachers. Read the following statement and indicate how strongly this statement reflects your teaching facilities.

“My teaching space accommodates the largest group I teach. It has appropriate acoustical properties, a quiet environment, good ventilation, and adequate lighting. It contains storage space for instruments, equipment, and instructional materials.” (adapted from MENC, Opportunity-to-Learn Standards for Music Education. 1994, p.7)

Strongly Agree – Strongly Disagree

1 2 3 4 5

2. Do you have a separate facility to teach orchestra or do you share a room with another music class?

_____ Share a room with another music class
Please describe:

_______________________________________________________

_____ Have separate orchestra room

3. Does your school district have a printed orchestra curriculum or course of study to follow?

YES  NO

3a. If yes, is it used to plan instruction and evaluation?

YES  NO

4. Using the following scale, indicate the number that best represents the support you feel you have for your orchestra program from:

no average extremely support support supportive

1 2 3 4 5

_____ music teaching colleagues _____ building principal(s)
_____ parents of students in the orchestra _____ school counselors
_____ private teachers _____ district administrators
_____ non-music teaching colleagues

5. Your teaching evaluation is usually conducted by?

_____ a music supervisor
_____ a building principal
_____ an arts coordinator

other (specify):

_________________________________________________________________
6. Has financial support from your district for the orchestra program changed or stayed about the same during the last five years?
   _____ Increased
   _____ Decreased
   _____ Stayed About the Same

III. Staffing & Hiring Practices

1. Has the number of string teachers in your school district (full or part time) changed during the last five years?
   _____ Increased
   _____ Decreased
   _____ Stayed About the Same

2. Has your district had string/orchestra teaching positions that have not been filled in the last year (1999-2000)?
   YES   NO

2a. If yes, how many string/orchestra teaching positions were not filled last year?
   _____ positions
   _____ I do not know that information.

2b. What percent of the openings were filled with certified teachers whose primary instruments were strings?
   _____ percentage.
   _____ I do not know that information.
2c. If you filled your position(s) with certified teachers whose primary instruments were strings, how difficult was it to find qualified string/orchestra teachers with this background?

very moderately not difficult difficult difficult difficult

1 2 3 4 5

2d. What percent of the openings were filled with non-certified teachers whose primary instruments were strings?

_____ percentage

_____ I do not know that information.

2e. If you filled your position(s) with non-certified teachers whose primary instruments were strings, how difficult was it to find qualified string/orchestra teachers with this background?

Very difficult moderately difficult not difficult difficult

1 2 3 4 5

2f. What percent of the openings were filled with qualified certified teachers whose primary instruments were not strings?

_____ percentage

_____ I do not know that information.

2g. How difficult was it to find qualified certified string/orchestra teachers to fill the string/orchestra position(s) whose primary instruments were not strings?

very difficult moderately difficult not difficult

1 2 3 4 5

3. Did you have any string openings this year (2000-2001)?

YES NO

3a. If yes, how many openings were there this year?

_____ openings
3b. What percent of the openings were filled with certified teachers whose primary instruments were strings?

_____ percentage

_____ I do not know that information.

3c. If you filled your position(s) with certified teachers whose primary instruments were strings, how difficult was it to find qualified string/orchestra teachers with this background?

very difficult   moderately difficult   not difficult

1 2 3 4 5

3d. What percent of the openings were filled with non-certified teachers whose primary instruments were strings?

_____ percentage

_____ I do not know that information.

3e. If you filled your position(s) with non-certified teachers whose primary instruments were strings, how difficult was it to find qualified string/orchestra teachers with this background?

very difficult   moderately difficult   not difficult

1 2 3 4 5

3f. What percent of the openings were filled with qualified certified teachers whose primary instruments were not strings?

_____ percentage

_____ I do not know that information.
3g. How difficult was it to find qualified certified string/orchestra teachers to fill the string/orchestra position(s) whose primary instruments were not strings?

very difficult  moderately difficult  not difficult

1 2 3 4 5

4. Do you anticipate any new openings in strings for the future/the next school year (2001-2002)?

YES NO


YES NO

IV. Students You Teach

1. What percent of your students are:

_____ White

_____ African American

_____ Asian

_____ Native American

_____ Hispanic

_____ Other (Please Specify)

________________________________________________________

2. What percent of your students are:

_____ Male

_____ Female
3. What percent of your string students study privately:
   _____ % During the school day
   _____ % Outside of the school day

4. Has the number of string students in your school(s) increased,
decreased, or stayed the same in the last five years (1995-2000)?
   Elementary:
   _____ increased
   _____ decreased
   _____ stayed the same
   Middle/Junior High:
   _____ increased
   _____ decreased
   _____ stayed the same
   High School:
   _____ increased
   _____ decreased
   _____ stayed the same

5. Please estimate the percent of your string students that continue
   a. from the first to second year of instruction.
      _____ percent
   b. from elementary to middle/junior high school (if applicable-
      assuming you begin strings at the elementary level and they spend
      more than one year at the elementary level).
      _____ percent
   c. from the middle/junior high to high school.
      _____ percent
V. Teacher Profile

1. What is your gender?
   _____ Male
   _____ Female

2. What was the last degree you received?

   ___________________________________________________

3. How many string workshops focused on training for string teachers, on average, have you attended in the last 12 months?
   ________ String sessions/workshops held at my State’s MENC Conference
   ________ School/District String Workshops
   ________ Regional/National/International String Workshops

4. How many years have you been teaching?
   _____ years

5. How many years have you been teaching strings?
   _____ years

6. How likely are you to retire in the next 5 years?
   not likely    somewhat likely    extremely likely
   1 2 3 4 5

Thank You for Completing This Survey!