

Year VII  
ASSESSMENT REPORT

**New Jersey Symphony Orchestra's**

**EARLY STRINGS  
PROGRAM**

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**Introduction**

The New Jersey Symphony Orchestra's (NJSO) Newark Early Strings Program (NESP) is designed to provide instruction on string instruments for children in grades 2-4. NESP is a comprehensive approach to string training. Students participating in the Program attend the NJSO's Concerts for Young People series and attend small ensemble performances in their schools through the NJSO's REACH program. The stated goals of the Program are to:

- Implement pilot strings programs within selected public schools in Newark, including group violin lessons for students in grades 2 - 4,
- Encourage and nurture the talents of committed students in the second grade and older via participation in the NJSO's school-related performances,
- Improve the overall education of the students,
- Establish and strengthen collaborations between the NJSO and in-school music teachers, and
- Develop and strengthen the relationships between the schools and the community.

NESP seeks to accomplish these goals by providing:

- Training for in-school music teachers, including basic violin technique and a modified Suzuki method of pedagogy,
- Training in a modified Suzuki method of pedagogy for NJSO musicians and Newark Public School music teachers,
- Weekly lessons for students using the modified Suzuki method with school-provided quarter- and half-size violins (these lessons are taught by in-school music teachers),
- Biweekly class lessons with NJSO musicians to reinforce weekly instruction,
- Regular enrichment opportunities via in-school chamber music performances by NJSO string players,
- Annual inter-school *Fiddle Fest* at the New Jersey Performing Arts Center (NJPAC) in the spring, and
- NJSO's *Young People's Concert* and *Spotlight Concerts*, held each fall and spring respectively, at the NJPAC.

The Program has now completed its seventh year of implementation. During the 2006-2007 school year, the Program maintained services for a total of ten schools.

The documentation study focuses on five participating schools--Ann Street School, Franklin School, Elliott Street School, Quitman School and Raphael Hernandez School. Second, third, and fourth grade students who began the Program in the second grade continued to receive violin instruction. Many of the students who began the Program two years ago in second grade are continuing instruction as fourth graders. In some schools the Program serves one class of students at each grade level, while at other schools students come from different classrooms within each grade level. During the 2006-2007 school year, there were approximately 600 students participating in the Program.

The evaluation results presented in this report examine several aspects of the Newark Early Strings Program. Specifically, this report focuses on:

- The impact of the Program on students' academic success and self-esteem, as well as
- The impact of the Program on the school and community.

During the assessment project, information was gathered from the major participants of NESP listed below:

- Students are the focus of the study. Their responses to the Program and their development as a result of participating in NESP are key.
- Music Teachers and Classroom Teachers are an important source of information regarding several aspects of the Program. Music teachers provide instruction and continuity for the Program. Because of their role in the Newark Early Strings Program and their close contact with the students, both music teachers and classroom teachers were able to provide important information regarding the effectiveness and the success of the Program.
- School Administrators/Leaders have a unique perspective and have an important influence on the Newark Early Strings Program. Their position requires that they support and facilitate NESP activities, and that they assess the impact of the Program on schools.
- NJSO Instructors have key roles in the Newark Early Strings Program. Most importantly, they develop instructional experiences and provide performance opportunities for students.
- Newark Early Strings Program Administrators, because of their close contact with all of the essential components of the Program, are an important source of information for this report.

The assessment team was comprised of two members of the Center for Arts Education Research (CAER), located at Teachers College, Columbia University. The team has been led by Dr. Hal Abeles, Co-Director of the Center and Professor of Music and Music Education. Emily Ondracek, Research Associate at the Center and doctoral student in Music Education at Teachers College, assisted on the project.

## FINDINGS

Based on the initial goals of Newark Early String Program (NESP), early evaluations focused on whether NESP was reaching its goal of inspiring participating students' to develop an interest in pursuing further music education. The results of this work was published (Abeles, 2004) and clearly demonstrated that students who participated were more likely to consider music as a vocational choice than those who did not participate.

During the next phase of the assessment, evaluators combined an ongoing NESP program assessment with an exploration of its potential impact of the program on academic outcomes. Analysis of achievement test data showed that a higher percentage of NESP students performed at or above proficiency than students in other comparison groups (see Table 1)

**Table 1: Achievement Test Data Results**

Year/Group	NESP	In-School Comps	Newark	New Jersey
Math: 2002 3 <sup>rd</sup> grade	95%	56%	32%	na
Math: 2005 3 <sup>rd</sup> grade	83%	57%	63%	82%
Math: 2006 3 <sup>rd</sup> grade	92%	83%	69%	87%
Math: 2003 4 <sup>th</sup> grade	78%	28%	43%	68%
Math: 2004 4 <sup>th</sup> grade	90%	65%	54%	72%
Math: 2005 4 <sup>th</sup> grade	83%	52%	60%	80%
Math: 2006 4 <sup>th</sup> grade	83%	78%	64%	82%
Literacy: 2002 3 <sup>rd</sup> grade	71%	60%	50%	na
Literacy: 2005 3 <sup>rd</sup> grade	84%	62%	58%	83%
Literacy: 2006 3 <sup>rd</sup> grade	93%	84%	58%	82%
Literacy: 2003 4 <sup>th</sup> grade	78%	31%	53%	78%
Literacy: 2004 4 <sup>th</sup> grade	86%	69%	62%	82%
Literacy: 2005 4 <sup>th</sup> grade	87%	36%	61%	82%
Literacy: 2006 4 <sup>th</sup> grade	78%	67%	60%	80%
Science: 2006 4 <sup>th</sup> grade	72%	50%	59%	82%

The NESP group in each of five selected schools was typically a selected existing intact class of students who were then compared with an equal number of randomly selected students from remaining intact classrooms of the same 'grade'. In addition to analyzing year-end achievement test scores, Center for Arts Education Research evaluators observed lessons and performances, and conducted year-end interviews with a range of project stakeholders, such as students, classroom teachers, music teachers, and principals. Classroom teachers reported for example that NESP students *“focus on details, which helps them pay attention to the details in other areas. It helps them a lot in class, for instance, seeing the details in a math problem.*

This section reports the findings of the program evaluation for the 2006-2007 school year. The information upon which the results are based was gathered by the assessment team through observing the Program in action. Our observations included:

1. NESP classes led by in-school music teachers and by NJSO-provided instructors, and
2. Student performances.

Throughout the assessment, members of the assessment team have spoken with program participants both informally and formally in structured interviews to better understand the Program. We spoke to:

1. Students participating in the Program,
2. In-school music teachers,
3. Classroom teachers,
4. NJSO-provided instructors, and
5. Principals and school administrators.

Third and fourth-grade student performance on the *New Jersey Assessment of Skills and Knowledge* (NJASK) in Mathematics, Language Arts and Science (4<sup>th</sup> grade only) and second grade students' scores on individual school achievement tests were evaluated for the 2006-2007 school year.

### **The Impact of the Program on Students**

During the 2006-2007 school year, the assessment project continued to focus on academic success and on factors that may contribute to the academic success of students participating in NESP. Information regarding academic success and personal/social characteristics of students was gathered from classroom teachers, principals, in-school music teachers, and students, as well as from data provided by school administrators. For this report, administrators at five of the participating schools provided data for their students to assist the assessment team in analyzing the results of standardized test scores for students participating in the Program. The data provided by the schools were for different grades at different schools, partly because the NESP program is not implemented in the same grades across all of the schools. Each school provided scores for both NESP students and randomly selected comparison students at the same grade level.

Academic Success: Standardized test performance. Our analysis focused primarily on third and fourth-grade students' performance on the *New Jersey Assessment of Skills and Knowledge 3 and 4* (NJASK3 and NJASK4). The NJASK3 includes subtests in Mathematics and Language Arts, while the NJASK4 includes subtests in

Mathematics, Language Arts, and Science. Students took these tests in the spring of 2007.

When averaged across the NESP participating schools, NESP third-graders performed at a higher level than other third-grade students at the same schools. In addition, NESP students at the participating schools performed at a higher level than other third-graders in Newark and New Jersey as well.

The results for third-grade students are presented in Figure 1. The Figure depicts the percentage of students in each group that were assessed as proficient or advanced proficient on the tests.

Figure 1

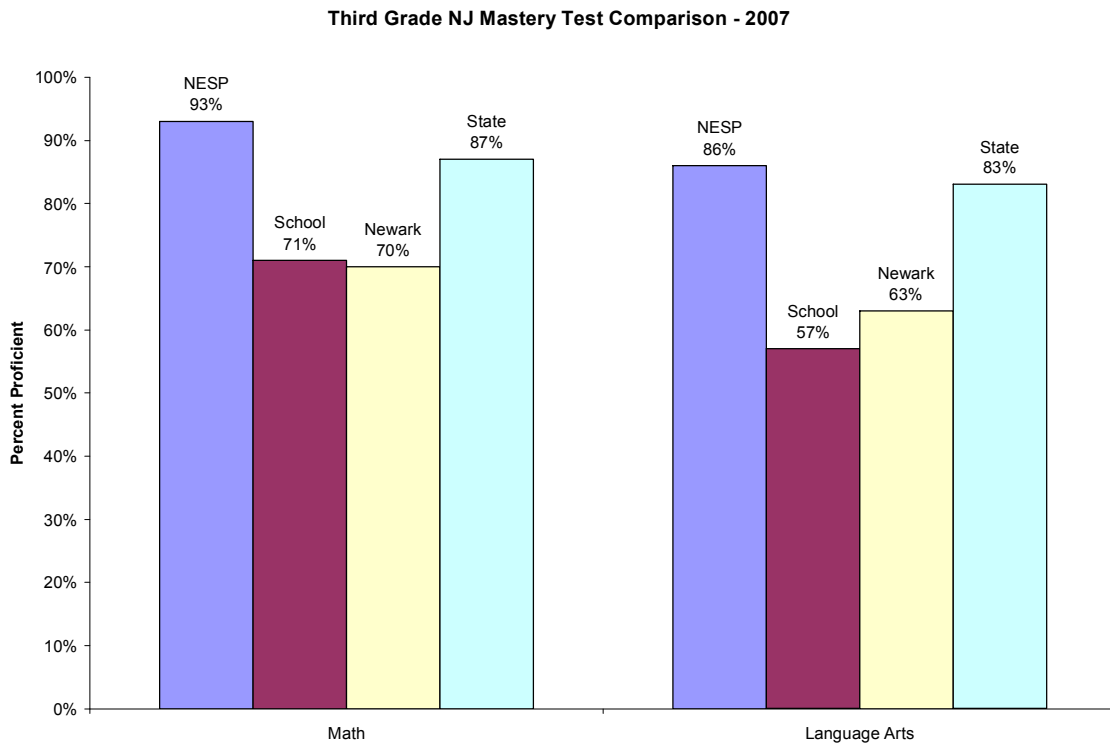


Figure 1 shows that the NESP students achieved higher scores than non-NESP students in both of the proficiency areas. In addition, the results were statistically significant<sup>1</sup>, indicating that the results are not due to chance, and are likely to occur again.

NJASK4 data for fourth graders were obtained from three of the schools. These are presented in Figure 2.

<sup>1</sup> Chi-square procedures ( $p < .05$ ) were used for all the statistical analyses in this report.

**Figure 2**

**Fourth Grade NJ Mastery Test Comparison - 2007**

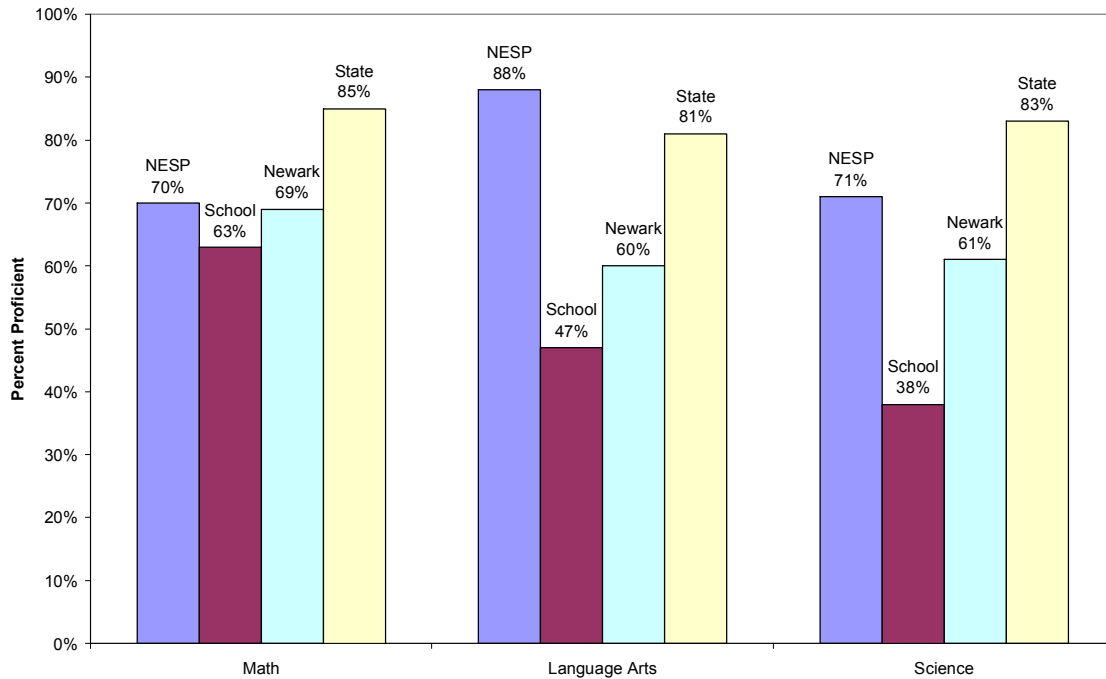


Figure 2 shows that when averaged across the participating schools, NESP fourth-graders performed at a higher level than other fourth-grade students at the same schools and NESP students at the participating schools performed at a higher level than other fourth-graders in Newark on the Language Arts and Science subtests. The differences between the NESP students and other fourth graders at their schools for both the Language Arts and Science tests were large enough to be statistically significant.

Language Arts and Math Achievement scores for second graders were provided by three schools. These appear in Figure 3.

Figure 3

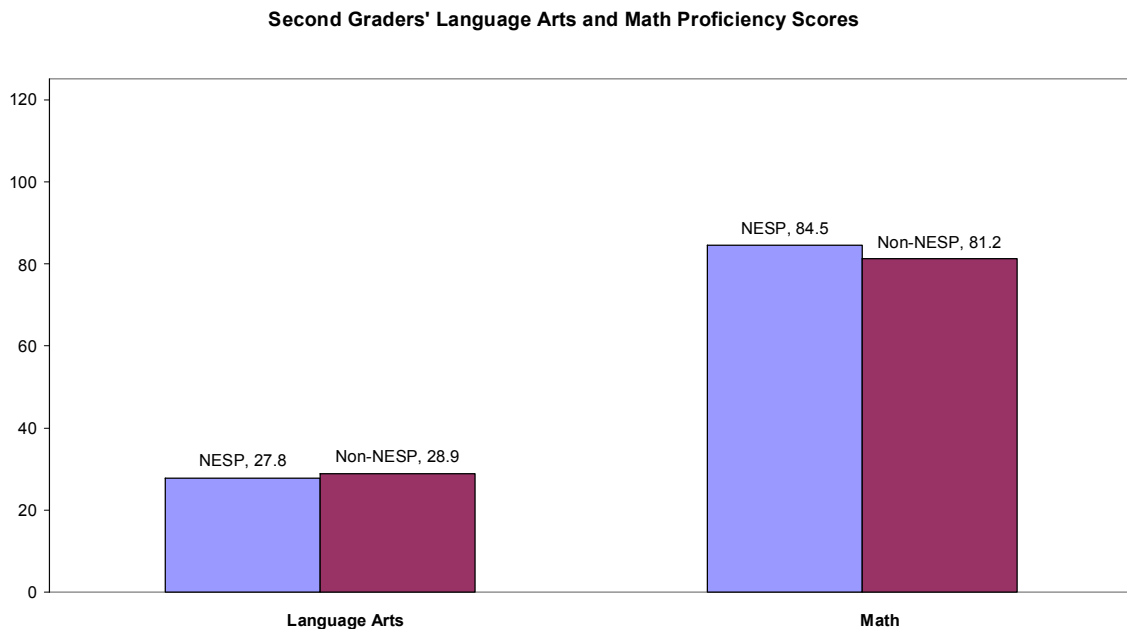


Figure 3 shows that the NESP and Non-NESP second grade students performed about equally in both areas.

The outcomes presented above are not the results of controlled experimental studies and consequently there may be explanations for the differences observed other than participating in NESP. For instance, some of the participating schools use different strategies for assigning students to the Early-Strings Program. One school specifically selects bilingual students to participate in NESP, while in other schools students are assigned in a more random manner. While the strategies employed for initially assigning students may cause some to question the results, the consistent pattern that appears across grades and schools provides some confidence that the effects observed may be “real” effects and consequently, replicable. In each of the last six years, our analysis has produced a similar pattern of results.

Academic Success: Other evidence. For the last six years, the teachers and principals we interviewed almost unanimously indicated that the Program has a positive influence on the students’ academic work. We continued our interviews this year and recorded similar sentiments. Principals and teachers have seemed to become more confident in their perspectives as data supporting this

relationship have been collected. Throughout the six years of the assessment, teachers and principals have made statements like:

Principals:

*The program creates more well-rounded children.*

*The children are more disciplined as a result of having to practice. And it is reflected in their academics.*

*When the children perform they are very independent. They have everything memorized. They are self directed, monitoring themselves.*

*Our third graders scored extremely high on their mastery tests. Definitely, it had an effect on their academics.*

*Last year, when we looked at the assessments, it was borne out that the students in the program had higher scores.*

Teachers:

*I notice that these kids are ambitious. When they are playing they are trying to do well. They listen carefully. Listening is a big challenge at that age and they work at listening. In addition, the lessons focus on memorization. They have to memorize so many pieces – 6 or 7 pieces. It [memorization] helps them in other subjects like math and reading.*

*I've noticed a big difference between beginning of their lessons and at the end of the year. They've made tremendous progress.*

*I would say that students have more discipline and are very ambitious. Whatever they are doing they are very determined to do it perfectly.*

*The children learn a lot of vocabulary in their lessons and are able to use it to help them in class. The rhythm aspect of music has directly helped them with the work we do in poetry.*

*The students seem more confident, both academically and socially. They have a better work ethic and are more interested in succeeding in class.*

Personal/social characteristics that contribute to academic success. Several studies suggest that certain personal or social characteristics positively affect students' academic performances. For instance, characteristics such as the ability to concentrate, the capacity to cooperate with others, and self-confidence have

been shown to be positively related to school performance (i.e., higher self-confidence leads to higher grades). In addition, other studies (e.g., Burton, Horowitz, & Abeles, 2000; Heath, 1998) conclude that participation in the arts has a positive influence on these characteristics. Throughout the assessment, interviews with principals, teachers, and students revealed considerable support for the notion that participating in NESP has a positive effect on these enabling characteristics.

Principals and teachers stated that the Program had positive effects on students' self-esteem and self-discipline. They told us:

Principals:

*I think that the kids have gained self-responsibility and maturity and it has affected their self-esteem and self-confidence. The third-year students are in a role model position for the first and second year students.*

*The program has really helped their self-esteem. They are very confident when they are playing on stage.*

*NESP students are looked up to by both students and teachers at the school. It has really affected their self-esteem. It's cool to carry a violin case around the school. They are held in awe because of what they are able to do and what they sound like.*

*The fourth graders are doing very well. They just played at NJPAC. The kids were bursting with pride.*

Teachers:

*It is clear that the kids taking violin are thought to be special by other children in the school. When they walk down the hallways with their violins - they are just beaming.*

*The program gives more responsibility to children. I assign a captain of each violin class. We expect them to lead and they will succeed.*

*Some students who are shy and quiet do much better in a performance situation. Confidence comes out with the violin.*

*It helped me understand that there are multiple sides of the children. I see things that I don't see here in the classroom. They might be shy in the classroom, but when you see them on stage, they are very confident.*

Students expressed their perspective with statements like:

*It helps you learn a lot of stuff. It makes you feel good.*

*It changed our lives. Before we had nothing to do and now we come to school and we have something to do and it's fun.*

*Playing the violin is really a good way to take away all your hard feelings. It soothes you a lot.*

*When we went in NJPAC we played with other violinists and got to make music with friends that we didn't know.*

### The Impact of the Program on the School/Community

NESP has had effects beyond the particular children served. While each of the schools reported high levels of parent participation in the schools, as a result of NESP parents appear to have developed even closer contact with the participating schools. We asked principals and teachers to comment on this aspect of the Program. Principals and teachers throughout the period of the assessment project have been unanimous in citing increased parental involvement with the school as a positive outcome of NESP.

#### Principals:

*It has impacted our teachers. They have a deeper appreciation for how the arts can play import roles in the development of our students.*

*The parents are very supportive. When the students go to a performance the parents all want to go.*

*When we have an evening meeting for parents, if the children are playing our attendance at the meeting doubles!*

*Parents love it. They are very supportive. 99% of the parents came to support the NJPAC performances. They make an effort to make sure that their children are there for extra practice sessions before or after school.*

#### Teachers:

*Sixty parents attended the school performance.*

*One father, whose daughter wasn't able to participate, bought a violin for her so she could be in the program.*

*One parent told me, "When I heard them play it made me cry".*

## SUMMARY

Based on our analysis of the information gathered from the participating schools, the Program is meeting several of its stated goals:

- The Program has successfully implemented pilot strings programs in an increasing number of public schools in Newark, and is providing group violin lessons for students.
- The Program, through a variety of activities, has nurtured the musical talents of second through fourth grade students.
- In each of the years standardized proficiency test scores have been examined, the assessment team found that NESP students out-performed non-NESP students on these tests. While the evidence continues to show consistent results, this finding cannot be considered a direct effect of participating in the Program because the data were not the result of a carefully designed experimental study.
- The Program has been able to establish and strengthen collaborations between the NJSO and in-school music teachers.

In addition, most principals and teachers at participating schools appear convinced that the Program has had a positive effect on students' self-esteem and self-discipline. The Program has increased parental involvement in participating schools.

Based upon the evaluation undertaken by the assessment team during the first six years of the Program, it seems clear that the continuation of NESP should be supported. Program administrators should strive to see that the Program is fully implemented in each of the schools, and consideration should be given to expanding NESP to serve additional students in Newark and other area schools. When we spoke with teachers and principals about organizational issues related to the NESP, they consistently asked for more frequent lessons and smaller group lessons for their students.

It is important to underscore the comprehensive nature of the Program. Students participating in the Program attend the NJSO's Concerts for Young People series and attend small ensemble performances in their schools through the NJSO's REACH program. Our conversations with students reflected the importance of all of the components of the Program in the overall impact reported above. The assessment team continues to monitor the Program.