

Year VI
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,
- 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,
- REACH ensemble visits to each participating school,
- 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 sixth year of implementation. During the 2005-2006 school year, the Program maintained services for a total of ten schools. The

documentation study continues to focus on the five original pilot schools--Ann Street School, Franklin School, Clinton Avenue School, Elliott Street School, and Harriet Tubman 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. Currently, there are approximately 450 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, self-esteem, and vocational interest 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.

Since the 2001-2002 school year, the assessment team has been 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. Edel Sanders, Research Associate at the Center and graduate student in Music Education at Teachers College, assisted on the project.

FINDINGS

This section summarizes the findings of the program evaluation for the 2005-2006 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 (4th grade only) and second grade students' scores on the *Slosson Oral Reading Test* (SORT) were evaluated for the 2005-2006 school year. In addition, an inventory was administered to assess vocational interests of participating students.

The Impact of the Program on Students

During the 2005-2006 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.

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 (new for 2006). Students took these tests in the spring of 2006. When averaged across the five participating schools, NESP third-graders performed at a higher level than other third-grade students at the same schools and NESP students at the participating schools performed at a higher level than other fourth-graders in Newark and New Jersey as well. This pattern of NESP participants out-performing other third-grade students on both NJASK3 subtests was consistent at each of the five focus schools.

For this report, administrators at the five 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. The results for third-grade students are presented in Figure 1 (four schools).

Figure 1

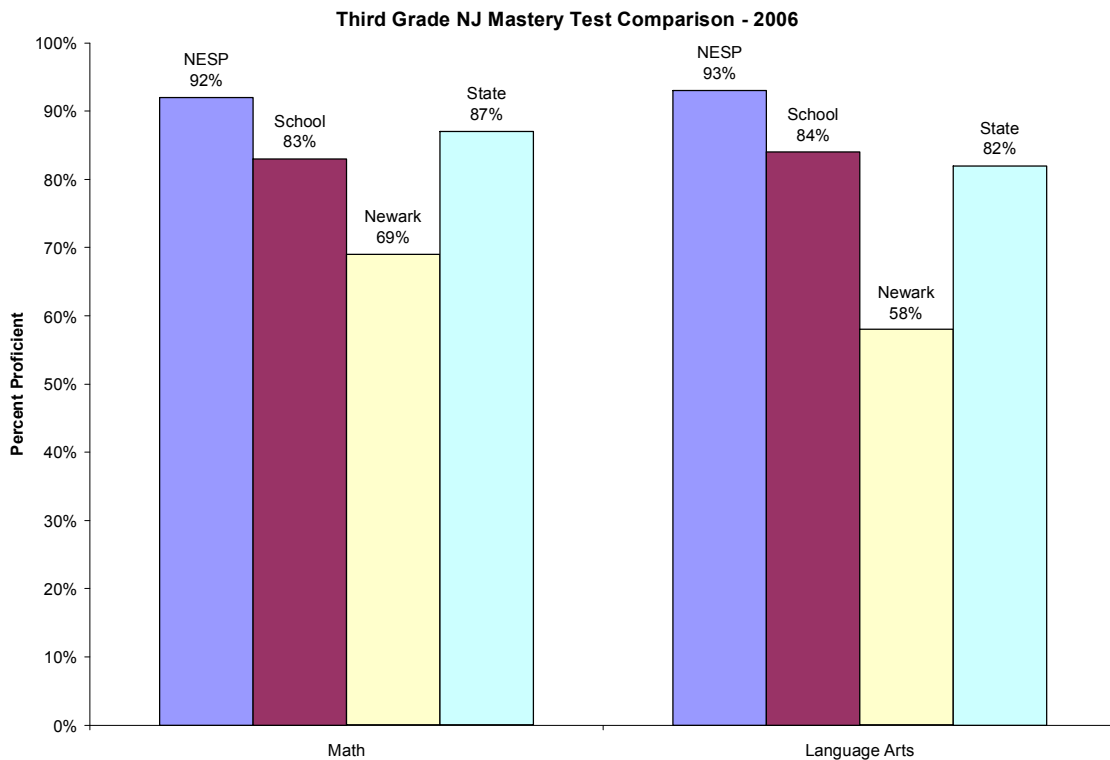


Figure 1 shows that the NESP students achieved higher scores than non-NESP students in both of the proficiency areas. In addition, the results were statistically

significant¹, indicating that the results are not due to chance, and are likely to occur again.

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

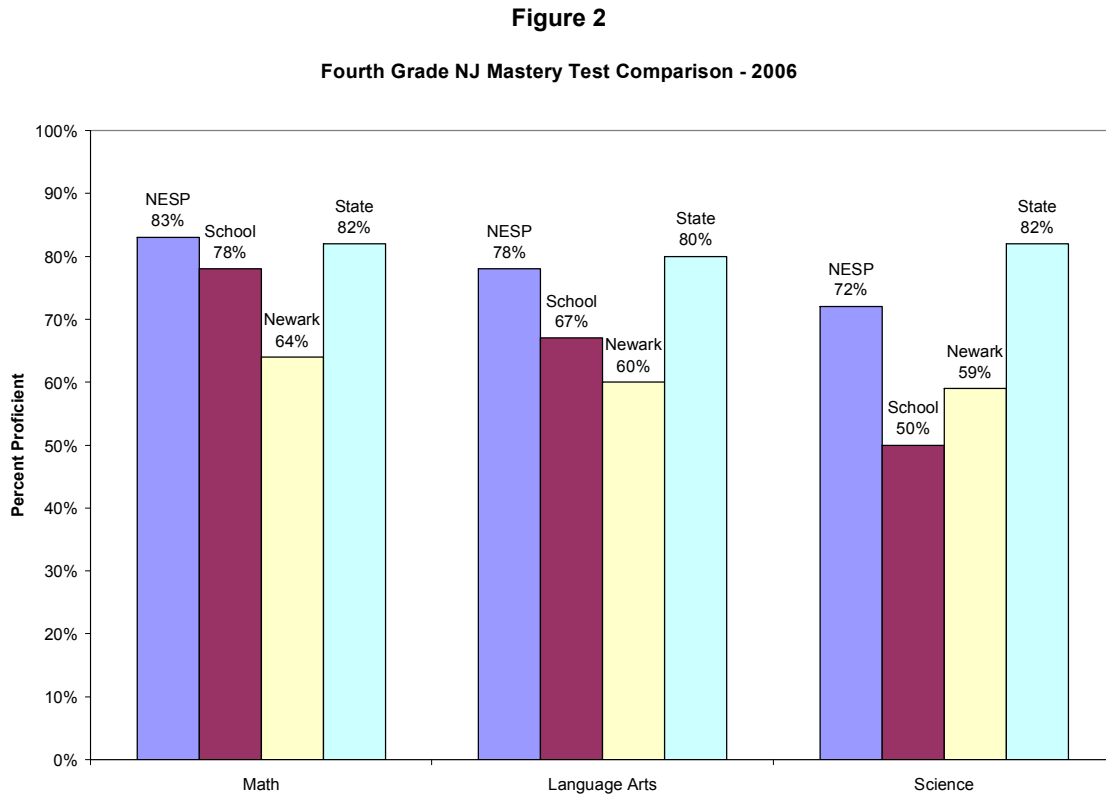


Figure 2 shows that when averaged across the four participating schools, NESP fourth-graders performed at a higher level than other fourth-grade students at the same schools and NESP students at the participating schools performed at a higher level than other third-graders in Newark and about the same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

Language Arts scores for second graders were provided by four of the five schools based on the Slosson Oral Reading Test (SORT) These appear in Figure 3.

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

Figure 3

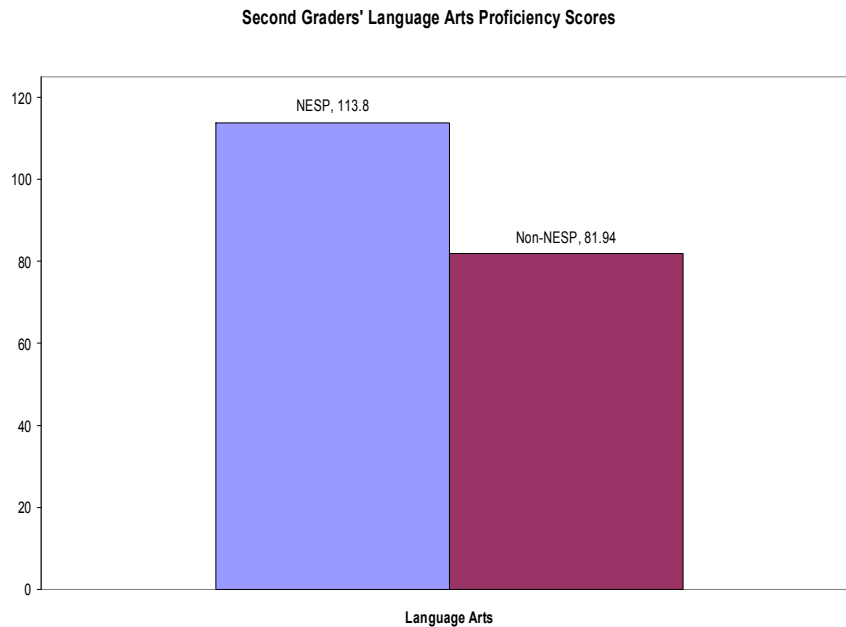


Figure 3 shows that the NESP second grade students received substantially higher scores than non-NESP students on the Slosson Oral Reading Tests (SORT). (SORT test score averages for Newark or for the State of New Jersey are not readily available for comparisons.)

It should be noted that the differences between the NESP participants on the NJASK3 and NJASK4 and the other students at the same schools are smaller this year than in previous years. The explanation for this difference is that the scores for the non-NESP students at the participating schools have increased, while the NESP student scores have also risen, but because they were already quite high already, they have not risen as much. It is also noticeable that the language arts scores for the second grade NESP students are dramatically higher than has been reported in previous years.

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 five 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 continued 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 violin students stand out on the test data. Middle school principals want these kids!

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

Yes, I’ve seen transfer effects. The majority of the students in the Program overachieve.

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:

When the children listen to a recording of their playing, they focus on details and it helps them pay attention to the details in other areas. When I ask their classroom teacher, she reports that it helps them a lot in class, for instance, seeing the details in a math problem.

It (the program) enriches their lives. It has had a positive effect on their reading. Their vocabulary has definitely increased.

I noticed a difference in concentration. They are very focused and this transfers to their work in other subjects.

When their class graduates, I look at the top students. Each year, most of the top students have been in the strings program.

I have seen positive changes... socially, academically and emotionally. They've had a lot of extra attention. They follow through better... because of the training and discipline they got in the strings program. Practicing is a discipline; making sure things are right and perfecting. It has transferred over in terms of their focusing, etc.

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 have all these opportunities to play for others. 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:

The children are very excited. Attendance has improved when they know they are going to perform in front of an audience. You could see their excitement. They enjoy being up on stage performing.

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.

Vocational Interest. One of the goals of New Jersey Symphony Orchestra's *Early Strings Program* is to affect students' interest in playing musical instruments. To supplement information regarding students' enrollment in instrumental music, second through fourth grade students in five of the participating schools were administered the Vocational Choice Scale (VCS) developed by Cuiettia (1995) for use in assessing children's interest in different vocations.

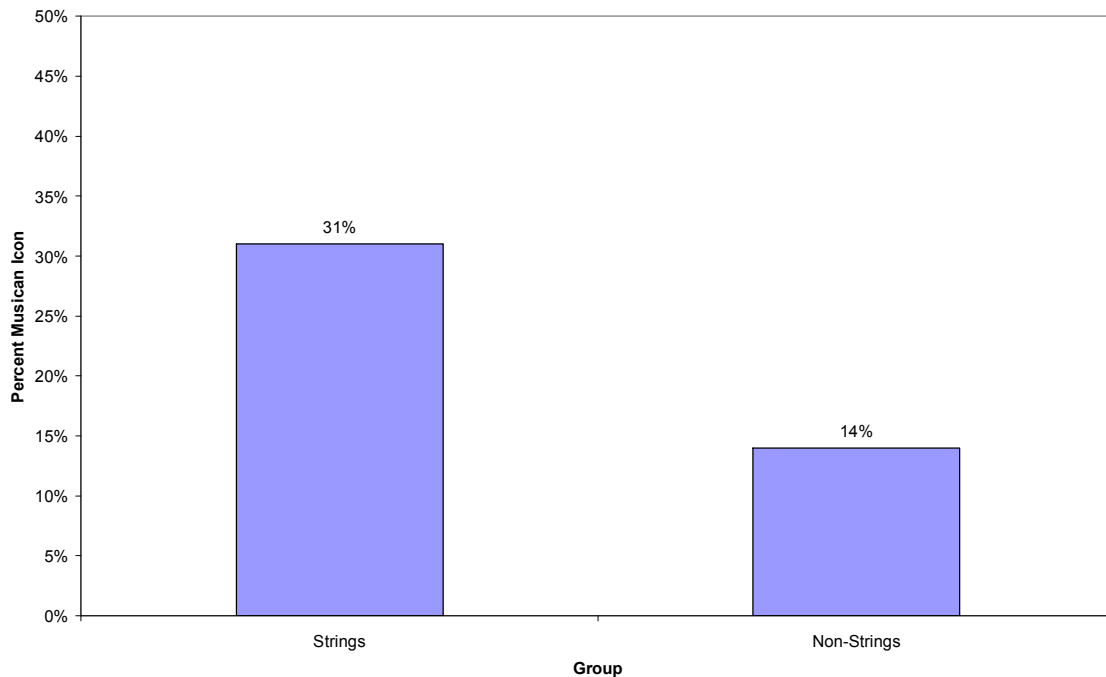
The original VCS was slightly modified for use in the current evaluation in an effort to eliminate sex stereotyping of certain professions and better represent ethnic diversity. The modified VCS included icons and titles for 20 vocations that are randomly ordered on the form. They include professions such as Teacher, Doctor, and Lawyer, occupations like Basketball Player and Car Mechanic, and President. Music, which was represented by three icons, was the only profession represented more than once. Directions for the VCS ask the students to circle a boy or girl icon, and then to complete the sentence "When I grow up I would like to be:" by circling any three icons of the twenty represented on the page.

The VCS was administered by teachers in the Newark elementary schools. For comparison purposes, data were gathered from students at the same schools who were not enrolled in the strings program. The scores from these non-strings students were also included in our analysis.

Three of the schools participating in the Early Strings Program returned the VCS forms. The VCS was completed by 92 students participating in the Early Strings Program and 97 students at the same schools who were not participating in the Program. A total of 29 of the 92 strings students (31%) selected a musician icon on their VCS form, while only 14 students of the 97 non-strings students from the same schools (14%) selected musician on their VCS forms (see Figure 4). The purpose of this assessment was to examine whether differences would be observed in the frequency that Musician was chosen, and the differences between the frequencies of Musician selections for the students in the two groups (strings/non-strings) were subjected to a test of statistical significance. A Chi-square test of statistical significance was calculated. The result revealed that there was a statistically significant difference (Chi-square = 7.47, $p < .01$) between the two groups in the frequency with which the students selected Musician on the VCS.

Figure 4

Vocational Interest Comparison



The results of our statistical analysis indicate that the pattern of differences between the two groups was significantly different. This means that the results are not likely due to chance but are real differences, differences that would likely be replicated with other samples of students with similar experiences.

Children at this age tend to choose vocations that they are exposed to or are familiar with. Thus, it should not be surprising that their most frequent choices

were Parents, Teachers, Basketball Players, and Doctors. This interpretation also seems to help explain the significant differences in the frequency of Music vocational choices found between the students who were involved with the Early Strings Program and the students who were not participating in the Program. While both groups of students receive school-based music instruction, NESP students were learning to play the violin with support of the NJSO Program. These students selected the Violin music icon—an instrument with which they were familiar based on their direct experiences with it—significantly more frequently than the non-strings students.

It is unlikely that these indications of vocational interest are very stable or predictive. It is likely that as these children grow they will be exposed to a wider range of vocational choices, and eventually narrow their choices based on both school and life experiences. Nevertheless, this interest in music as a vocation would likely not be present if it was not for the NJSO program. And because the Program serves inner city minority students, this interest may have the potential, if nurtured through the continued opportunity to play instruments in a school-based instrumental music program, to increase the diversity of America's symphony orchestras.

The Impact of the Program on the School/Community

It seems clear that NESP has had effects beyond the particular children served. Parents appear to have developed 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:

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

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 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. Vocational preference data collected show the Program appears to influence students' consideration of music as a vocational option and 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 for their students and other opportunities 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.