

Arts for Academic Achievement
A Compilation of Evaluation Findings from 2004-2006

Executive Summary

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This report summarizes results of the first two years (2004-2006) of a three-year evaluation of the Arts for Academic Achievement (AAA) program conducted by the University of Minnesota's Center for Applied Research and Educational Improvement (CAREI). The goals of Arts for Academic Achievement are as follows:

- To improve student achievement and engagement.
- To improve teacher practice by making arts-based and arts-integrated learning an integral part of classroom instruction.
- To change schools, including school climate.
- To change communities, including connecting families to schools.

During the 2004-2005 school year, 34 schools K-12 were AAA program sites. In the 2005-2006 school year the number of schools increased to 37.

Background and Previous Findings

In 1997 the Minneapolis Public Schools and the Perpich Center for Arts Education received a four-year grant from the Annenberg Foundation to develop the Arts for Academic Achievement program. Although funding from the Annenberg Foundation ended in 2002, the program continues in Minneapolis Public Schools today, with support from the school district as well as local and national funders.

As part of the Annenberg Foundation-funded work, the Minneapolis Public Schools, as fiscal agent for the grant, contracted with CAREI to evaluate the program. Key findings from the initial study were as follows:

- Teachers' instructional strategies and perceptions about student capacity
Data from annual interviews with teachers and artists at each AAA school and mini-case studies in six AAA schools indicated that AAA was a powerful professional development model for teachers. AAA, through its support of in-depth inquiry into the teaching and learning process in individual classrooms, brought about substantial change in teachers' instructional practice and their role in improving schools, both of which are pre-requisites to any lasting change in student achievement. Teachers readily described how AAA helped them to discover new strategies to make learning more engaging for their students, such as making instruction more child-focused or having students critique their peers' or their own work-in-progress. Arts integration also allowed teachers to see unexpected strengths in students and discover new options for assessing student learning; this made teachers aware of change and learning in students that they might have previously overlooked.
- Student-to-Student interactions
Data from mini-case studies of six AAA schools showed that during arts-integrated instruction the range of possible interactions between and among students widened. The major areas of change observed by the evaluators included the following: improved communication in groups, the emergence of unlikely leaders, the blending

of special needs children with their peer group, and improved student teamwork to accomplish a goal.

- Student achievement
During the 1999-2002 program years, the CAREI study examined the relationship between the amount of arts-integrated instruction as reported by teachers on an annual survey and gain scores on the *Northwest Achievement Levels Test (NALT)* in reading for students in grades 3, 4, and 5. In the final year, 2001-2002, the study found a significant positive relationship between the amount teachers said they had integrated the arts and growth on *NALT* scores for 3rd, 4th, and 5th grade students. The achievement analyses were limited to grades 3, 4, and 5 because, at that time, growth data on the *NALT* reading test was available only for those grade levels. The study also examined achievement in mathematics, but these results were less consistent than those for reading achievement.

Evaluation Design

When the Minneapolis Public Schools, at the request of the AAA program manager, contracted with CAREI again in fall 2004 to further evaluate the program over a period of three years, the study's major objectives were to 1) examine student learning, as measured by standardized tests, in a larger set of grade levels, and 2) measure student effects not otherwise captured by standardized assessments.

The evaluation plan was developed to answer the following questions:

1. How is implementation of AAA, and arts-integrated instruction in general, related to student learning?
2. Is the relationship between student learning and implementation of AAA, and arts-integrated instruction in general, stronger for various subgroups of students (i.e., students from high poverty homes, students of color, and students in English Language Learners programs)?
3. What do students learn in AAA, and arts-integrated instruction in general, that is not captured by standardized assessments?

Three different evaluation designs were used over the first two years of the study:

- A) Alternative Assessment Approaches
- B) Standardized Achievement Measures, and
- C) Perspectives of Teachers, Artists, and Students.

Overall, the results from the three sets of evaluation data illuminate several aspects of the complex relationship between student achievement and arts-integrated instruction. The results also illustrate the challenges in evaluating the effects of the multi-faceted relationship between teaching and learning in the context of arts-integrated instruction.

Review of Findings

Non-Standardized Measures

When non-standardized measures of student effects were used to gather information in a sample of projects, the evidence was overwhelmingly positive. The teachers and artists who participated in AAA projects envisioned that students would benefit from the arts-integrated instruction in a wide variety of ways. Teachers and artists reported that many of these benefits came to pass.

The following is a summary of how AAA projects affected students overall:

- Students learned in non-arts areas, both in terms of content and skills.
- Students were more engaged in the instruction during the AAA project.
- Students learned new ways of expressing themselves.
- Students developed empathy, perseverance, diligence, patience, and a willingness to try new things.
- Students who typically participate less than other students were more likely to get involved in the AAA project.
- Students developed pride in themselves and their work.

In addition to information on how AAA projects affected students, the data drawn from non-standardized measures of student effects also point up some strengths of arts-integrated instruction. For example, the data from the first hand experiences of teachers, artists, and students provide evidence of students' emerging Habits of Mind.

AAA projects can provide students with an opportunity to demonstrate skills or strengths they haven't had a chance to show in the classroom before. As a result, the teacher, the student him/herself, and other students may alter their beliefs about this student's abilities. Given the relationship between teacher expectations and student learning, it may especially benefit students when their teacher develops a more thorough understanding of their capacities.

The projects can offer students an alternative route into the non-arts content of the project and this may make the non-arts subjects more appealing to and approachable for some students. For example, students at Sanford who developed skits that involved the need to measure area and perimeter may have found that portion of their mathematics curriculum more intriguing and useful than they would have by approaching the topic strictly through the textbook.

Arts-integrated instruction may be more likely to motivate students because it offers them a chance to make choices, express part of themselves, and make authentic connections between their lives and the content of the lessons. Arts-integrated instruction isn't the only vehicle for providing students with these opportunities, but they are characteristics often found in arts-integrated instruction that may explain its greater appeal to many students.

Teachers also described constraints they had experienced in integrating the arts. Teachers were able to insert curricular content into the AAA project without losing momentum in their classroom teaching. However, they did feel at times that the narrowly defined expectations for classroom instruction related to attaining higher test scores interfered with the more expansive characteristics of the teaching within the AAA project. Teachers explained that they felt district pressure to emphasize non-arts at the exclusion of other things. A teacher noted that when district observers come in to the classroom, they are not looking for arts-integrated instruction, but rather “drill and kill,” with a strict focus on math and reading. This teacher explained, *“I don't see that the arts are valued.”* Another teacher said, *“Integrating the arts is not one of the things they are looking for.”* A third teacher noted that a reading grant cramped the scheduling for the AAA project; *“There are only so many things that you can and cannot do during that block of time.”*

The non-standardized data contained in this evaluation report portray student learning and teacher experiences in a sample of AAA projects. These effects should not be understood as representative of all AAA projects, however, because AAA projects vary widely and the sample size was small. Still, these benefits to students participating in AAA projects can be viewed as outcomes of such projects.

Standardized Measures

When standardized measures were used to examine the relationship between reading achievement and arts-integrated instruction in reading across 27 K-8 AAA schools in 2004-2005, the results were mixed. The data provided evidence for a significant positive relationship in four different grade levels. A positive relationship means that the more frequently the teachers reported that they integrated the arts into lessons to improve students' reading skills, the more their students' tests scores increased from year to year, or the better their students performed on a single test given once a year. Significant positive outcomes are noted for the following achievement measures and grade levels:

- The change in 3rd and 4th grade students' scores on the NALT reading test from spring 2004 to spring 2005.
- 7th grade students' scores on the MCA reading test in spring 2005.
- 8th grade students' scores on the MBST in reading in spring 2005.

At the same time, there was evidence of a significant negative relationship in kindergarten and 5th grade. A negative relationship means that when teachers reported a greater frequency

of integrating the arts into lessons to improve students' reading skills, the less their students' test scores increased from year to year. The significant negative relationships occurred as follows:

- The change in kindergarten students' scores on the Total Literacy Scale of the Kindergarten Assessments from fall 2004 to spring 2005.
- The change in 5th grade students' scores on the NALT reading test from spring 2004 to spring 2005.

Results from analyses of the relationship between reading achievement and arts-integrated instruction in reading among subgroups of students were also mixed. In some cases the negative relationship was not as strong among a subgroup, such as students of color, than among another group (e.g., White students). In other cases, the relationship is positive for a subgroup, such as students eligible for the free- and reduced-price lunch program, and negative for others (e.g., students not eligible for the lunch program).

It is challenging to draw implications for future programming from a complex set of findings such as these. In addition to considerations of the evaluation data themselves, it is important to consider other factors that might have influenced the results. The next section describes factors that may help explain the mixed findings from the standardized measures employed during 2004-2005.

Program Design and Implementation Factors

During the 2004-2005 school year AAA funded 126 projects in grades ranging from K-8. AAA program staff report that students were actively engaged in the arts-integrated lessons, yet the outcome results of the present study are inconclusive. A number of factors related to the nature of the AAA program help to explicate the ambiguous outcome findings.

Implementation Strategies

The broad definition of arts-integrated instruction in Arts for Academic Achievement and the wide variety of projects that are implemented may, in part, explain the inconsistent results. As noted earlier, AAA is not intended to be a unitary, pre-determined intervention. Rather, it is created from the ground up by teachers and artists within each AAA project. AAA program staff do not specify a curriculum or model for teacher-artist collaboration, or a set of instructional strategies to be implemented, nor do they stipulate which arts and non-arts disciplines should be included in a project. Teams are required to link their goals for student learning to their school improvement plans, but within each school's general goals the focus of a given AAA project is determined by the data driven needs identified by the school's teachers. As a result, the AAA projects that are implemented vary widely. In other words, not all students receive the same intervention, even within the same school or in classrooms at the same grade level across the schools.

Some projects may be more closely linked to the skills measured on the standardized reading tests and therefore are more likely to affect student achievement on those tests than other projects that are not closely connected to the test content. Also, some projects may be more effective than others in providing teachers with strategies they can continue to use when

their AAA project is completed. Because the immediate student learning goals and the instructional activities of the various AAA projects are so project-specific, it has not been possible to identify measurable criteria for quality arts-integrated instruction. As a result, in the analyses of the achievement data all projects are treated equally regardless of characteristics of such quality, such as how well the instruction is aligned with the project's learning goals and the school improvement goal the project seeks to address. It is highly likely, then, that instances of effective practice are obscured when data from so many diverse projects are merged.

Alignment of Project Outcomes and Standardized Measures

Projects may be successful in meeting the desired results of student learning that each project team is asked to identify in their planning process and yet, there still may not be an effect shown on the standardized reading tests used as indicators of student learning in this study. This could be due to several factors. AAA teams are not required to align their projects to a standardized test, and even when teams do so, the project may address just a small part of what is tested. If an AAA project addresses only a small piece of the reading curriculum, and if different AAA projects address different small pieces of the reading curriculum, a relationship to reading achievement may not be evident, even on the strand scores of the *NALT*. When all the projects are combined in the analysis the projects that did focus on, say, literal comprehension, may get diluted by the projects focused elsewhere. Moreover, many of the AAA projects did not target the outcomes under study. Fifty-four percent of the kindergarten projects and 47% of the fifth grade projects focused on reading, writing, or literacy. This suggests that the student learning targeted in the AAA projects wasn't aligned with the indicator of achievement used in the study: the standardized reading tests.

Teacher Professional Development

Arts for Academic Achievement offers teachers several forms of professional development, but the primary source is the interaction between the teacher and the artist as they develop and deliver a series of arts-integrated lessons. A key assumption of AAA is that, by working with an artist, teachers will learn new strategies they can continue to use in the classroom even after the partnership has ended. Given the small number of hours most artists are in the classroom with students, the teacher's ability to learn new skills and apply them beyond the scope of the partnership is limited as a potential ingredient to expanding the reach of the partnership. The amount of teacher-artist interaction, the primary source of professional development for teachers, simply may not be sufficient to transform teaching practice.

Teachers were also offered professional development outside of their work with the artists, but because participation in such opportunities was voluntary, and it often occurred after school, there was no consistent training that all teachers received. The AAA coordinator at each funded school was asked to attend eight hours of Critical Friends study group meetings. They were encouraged to bring another teacher to each meeting and it was hoped that when each school hosted a meeting, which were rotated among the group members' schools, all AAA teachers from a given AAA project at that school would attend. However, not all projects were featured in a Critical Friends meeting.

District Context Factors

During the 2004–2005 program year, Minneapolis Public Schools experienced a number of changes and pressures which doubtless affected AAA teams and their efforts. A new superintendent was hired which was accompanied by a period of administrative and programmatic change that teachers and AAA program staff believe may have delayed or even diluted AAA program implementation.

Budget Cuts and Teacher Mobility

Like most, if not all, urban school districts, Minneapolis Public Schools endured tight budgets during 2004–2005. Reduced funding resulted in teacher realignment, which meant that some teams of teachers that had worked together on AAA in the past were disbanded. The knowledge base of how to work with artists and integrate the arts may have been diminished or even lost in many buildings. Also as a result of funding cuts, the AAA program lost some experienced coordinators.

Teacher mobility also created a related complication: a teacher who was previously actively involved in AAA may now be working in a new school and not receiving funding for work with an artist. Such teachers would be classified accurately on the survey as having little or no participation with an artist during 2004–2005, yet those same teachers may be integrating the arts in their classes based on experiences with an artist in previous years. Although the teacher’s capacity to carry over skills from one year to the next is an asset to the program, it makes it difficult to isolate how working with an artist might affect student achievement in a given year or in subsequent years.

Federal Accountability Legislation

The Federal legislation of “No Child Left Behind” has created a focus on achievement in reading and mathematics, and the sanctions for schools not making adequate yearly progress have led many principals to limit or eliminate the teaching of subjects other than reading and mathematics. Some principals even specify that arts integration cannot occur during the reading instructional block. The emphasis on reading and mathematics over other curricula means that teachers have less room in their day for arts integration, not only with an artist during an AAA project but also to continue using any of the strategies on their own after the project ends.

Other District- or School-Level Initiatives

Several AAA schools are involved in a major district-wide initiative to improve reading instruction and student reading achievement which is not related to AAA. Thus in analyzing and comparing student achievement outcomes, the influence of AAA on these may be small or get lost in the other program’s analysis. Also, some teachers felt they couldn’t use arts-integrated strategies because it wasn’t allowed as part of the reading initiative and instruction was monitored. Because there may be other arts integration initiatives at the school level, such efforts may make it difficult to isolate the AAA program as a “driver” of student achievement outcomes.

Measurement Factors

The inconsistencies in the results, both for subgroups of students and students as a whole, may be due, in part, to several challenges presented when attempting to measure a broadly defined program such as AAA.

Student Achievement Measurement Challenges

The first challenge in a quasi-experimental design is to identify an appropriate comparison group of students who were not exposed to AAA or arts-integrated instruction. A comparison group is necessary in order to use statistical tests to determine how much AAA was related to achievement. Simply describing the test results of students whose teachers did an AAA project would not provide sufficient information to determine how strongly AAA is related to achievement. Instead, it is necessary either to compare achievement results for students who received the program to the achievement of students who didn't, or to compare outcomes among students who received different amounts of the program (i.e., a "dosage" study). However, in the context of this study, identifying a "clean" comparison group of students who did not receive arts-integrated instruction is extremely difficult for several reasons:

- 1) Teachers who did not participate in an AAA-funded project, or did not work at an AAA-funded school, may still have had an opportunity to work with an artist because there are multiple sources of funding available in Minneapolis for arts partnerships.
- 2) The AAA theory of action assumes that teachers will continue to integrate the arts even after the AAA project has ended in order to improve instructional effectiveness beyond the scope of the AAA project. Therefore, any measure of the implementation of AAA must take into account not only the extent to which a teacher worked with an artist, but also how much the teacher integrated the arts beyond the AAA project itself. The longevity of Arts for Academic Achievement in the district presents additional challenges. Teachers who didn't participate in AAA during the years of the current study may still have provided arts-integrated instruction to their students during that time based on the teachers' earlier involvement in AAA. Hence, information on a teacher's involvement in an AAA project in any given year is not a sufficient indicator of how much the teacher may have integrated the arts during that year.

Teachers' Instruction Measurement Challenges

The scope of AAA involves a large number of teachers. Due to that factor, a written survey was needed to determine how much arts-integrated instruction students received.

Many students in Minneapolis elementary schools receive reading instruction from not just their homeroom or primary teacher, but from several teachers working at that grade level in their school. Therefore, it was not possible, in most cases, to link the reading achievement score for each student with individual teachers in the array of teachers each student had. To do so would mean also assessing the percentage of time that each child had with each teacher (in a day, a week or a year), as well as accurately assessing the amount of arts-integrated instruction that each teacher provided. Instead, for each survey item a composite

response was created by combining the responses of individual teachers within a grade level for each school. The composite responses by school and grade level were then placed in each student's data file of achievement and demographic data.

The consideration of aggregating the responses of individual teachers into the responses from a group of teachers at one grade level, however, reduces the size of the study sample and thereby reduces the statistical power available to detect significant differences. It also may have obscured important differences in the level of arts integration students received.

During the design stage of the evaluation, there was extended discussion with the AAA staff about if or how to quantify the amount of time that teachers integrated the arts. In the end, it was agreed that determining a meaningful scale for teachers of quantifying arts integration, such as percentage of time or number of hours per week, was not feasible.

An additional challenge is that teachers may have interpreted the term *arts integration* differently. Although the survey contained a definition of arts integration, the definition is broad and the primary purpose was to distinguish arts integration from arts education¹. The definition also does not attempt to distinguish *the quality* of the instruction. As a result, their responses may include well-intended means of arts integration that were not as effective for improving student learning. For example, the instruction reported on the survey may have varied in the strength of the connection between arts and reading skills. In some cases, the connection may not have been sufficiently close to improve students' reading skills as measured by the standardized tests used in these analyses. Because the design of the study did not include a measure of the quality of arts integration, the results of the less effective practices may hide the potential of other more effective ways of integrating the arts into reading instruction. The precision of future analyses could be improved by incorporating an indicator of the quality of the arts-integrated instruction. Third, the drawback of a written survey is its reliance on self-report, which is less accurate than data collected by an outside observer.

What has been learned about student outcomes is descriptive, based on observations and first-hand accounts from teachers, students, and artists. Due to the individual nature of the teacher and artist partnerships this study does not have an experimental design with a treatment group and a randomly assigned control group. All findings are based on the perceptions of participants. Perhaps a final explanation for the challenge of evaluating AAA lies with the nature of art itself. Precision is not a common feature of art, yet it is precision that is needed to measure the inputs of arts integration that produce the quantified outputs of standardized test scores.

¹ The survey contained the following definitions: *Arts integration* is instruction in which arts-related concepts and activities are infused into one or more academic areas. Some call this arts infusion or education *through* the arts. *Arts education* is instruction in which the arts are treated as a separate discipline. Others may call this education *in* the arts.

Conclusions and Implications

Data drawn from the first-hand experiences of teachers, artists, and students presents consistently positive evidence of how arts-integrated instruction affects students. Growth in reading scores was statistically significant and positively related to arts-integrated instruction for two grade levels during 2004-2005. In addition, there was a statistically significant, positive relationship between arts-integrated instruction and 7th and 8th students' scores on state mandated reading tests in spring 2005. These findings should not be overshadowed by the lack of statistically significant findings for some grades and the statistically significant negative relationship between arts integration and achievement shown in two grades

Although a goal of AAA is to improve student achievement in non-arts disciplines, perhaps more weight should be given to findings that were not statistically significant. A non-significant result on a statistical test, as was found for grades 1, 2, and 6, means that students' scores were equal regardless of how much arts-integrated instruction they received. Yet, the students who participated in arts-integrated instruction received an enriched instructional experience.

Several implications arise from considerations discussed in this report which the district and AAA program leaders may wish to consider:

- √ Focus AAA program resources on fewer teacher-artist partnerships and provide more intensive coaching. The ability of teachers to learn new skills and apply them beyond the scope of the artist's time in the classroom is a key ingredient to expanding the reach of the partnership and thereby increasing the potential to improve student learning. To increase the probability that teachers will continue to use effective arts integration strategies beyond the boundaries of the partnership, AAA may need to provide a greater amount of coaching by AAA staff over a longer period of time.
- √ Strengthen the alignment between the learning goals of individual AAA projects and the achievement goals for the overall AAA program. Since one of the program goals is to improve student achievement as measured by standardized test scores, then individual AAA projects must be aligned with the larger program goals. Although projects focused on other areas of the curriculum may benefit students, they may detract from the overall program's influence on standardized test scores.
- √ Individual project outcomes should be better quantified, perhaps by a more rigorous administration and collection of the planning tool currently being used by teachers. This, along with better alignment to the overall program goals could help program staff identify promising arts integration approaches that could be replicated elsewhere in the district.
- √ Develop measurable criteria for the quality of arts-integrated instruction and use this information in analyses of the outcome data.

Possible Next Steps in Evaluation

In order to integrate arts more deeply into their teaching, teachers might benefit from a clearly articulated logic model that spells out the hypothesized (and grounded in existing research) links between the first visit of the artist to the classroom and the child's learning in the arts and non-arts disciplines.

A major expectation in AAA is that through their participation in an AAA project, teachers will have greater capacity to continue using the project's instructional strategies after the collaboration with the artist has ended. Determining how the integration of arts-infused instruction may persist over several years in a teacher's instructional repertoire may be useful in assessing the truly long-term outcomes of AAA.

If students learn different skills from projects that integrate different art forms, as was described earlier, it will be useful to explicate more of these links. For example, are students more likely to develop certain "Habits of Mind" when involved in a project integrating drama, while other "Habits of Mind" may be gained when the collaborative project involves visual arts?

Challenges to AAA

An important component of accomplishing AAA goals is to spread the nature of the teaching and learning that occurs within the confines of an AAA project to the instruction that takes place beyond it. Financial support is limited, especially because the district wants as many students and teachers as possible to have access to AAA, which spreads available resources more thinly than if they were concentrated in just a few schools.

Another challenge includes prescriptions from the district or the principal on how to teach reading and mathematics and for how long each day, not including any integrated instruction. Overcoming this barrier will require some extended conversations among district administrators, principals, AAA leaders, and teacher representatives about ways to maintain the integrity of the district expectations while addressing the benefits of arts-integrated lessons.