

## **Stability and Capacity Building Through Arts Education Evaluation**

### **Executive Summary**

This report presents the data of both phases of the ‘Stability and Capacity Building Through Arts Education’ program implemented by Goodyear Arts & Culture Commission and the Avondale Elementary School District. This opportunity was made possible through funding from the Arizona Commission on the Arts through the Strengthening Schools Through Arts Partnerships. This project was divided into two phases to address multiple identified obstacles that Avondale Middle School (AMS) is working to overcome. The two phases included an in-school integration of art into middle school math classes and the second phase was an after school theatre club. Included is a description of the school site and the major instruction/learning concerns for the school, the results of the data collected, and a discussion of the limitations and recommendations for the future. Both quantitative and qualitative data was utilized in the assessment of the findings.

### **Introduction**

Avondale Middle School is in a low SES community with 96% of the student population qualifying for free or reduced lunch. Students are drawn from an area that includes multiple units of government housing, as well as a large shelter for women and children who are attempting to escape situations of domestic violence. According to McKinney Vento regulations, AMS has 42 qualifying homeless students and Raid.com, crime enforcement website, reports that there were 170 Assaults and Aggravated Assaults, 105 Burglaries, 12 Robberies, and 91 incidents due to alcohol and narcotic use within one square mile of the school this year. A closer look at the community and the data demonstrates that a full understanding of the school does not come from just the poverty level. As large numbers of families are moving in with relatives or children living with grandparents, due to incarceration or drug use by the parents, we are seeing a larger number of students in the middle school that are solely responsible for getting up in the morning and coming to school.

The Strengthening Arts in Schools Grant, through the Arizona Commission on the Arts, provided the opportunity for the City of Goodyear Arts and Cultural Commission and the Avondale School District to partner in an arts integration program at Avondale Middle School. The ‘Stability and Capacity Building Through Arts Education Project’ was a two-tiered arts integration approach utilizing both an afterschool theatre enrichment program that encouraged multi-layers of arts experience and in-school teaching artists to create a relevant, engaging academic environment for both mathematics educators and students.

### **Statement of problem**

The following trends were discussed as problems at this school site:

- Middle-school teachers experience difficulty in implementing content integration,
- Content teachers fear art integration will jeopardize learning,
- Many students experience low motivation,
- ELL students need to improve oral language and vocabulary skills, and
- Students need to experience several avenues of art.

### **Theoretical Foundation**

The following theories and concepts were the foundational ideas on which we based this project:

- Increase exposure to arts integration and to experience the transformative results of using the arts to deliver content
- Expand the opportunity to provide relevant hands-on experience to a group of middle-school teachers
- Provide students with a balanced vision that the arts can be used in multiple content areas.
- Art is informational text and provides students a tool to apply their own life experiences in their work and identify relevance to real world applications.

Cornett (2007) suggests that art learning makes fourteen separate contributions to the learning process, including communication skill development, content of the arts itself, cognitive/intellectual development, and personal/emotional development. Cornett (2007) summed it up by saying, the arts are “unparalleled communication vehicles; they are symbolic languages that exist because all thoughts cannot be captured with words”.

### **Methodology for Art/Math Integration**

The in-school teaching artist portion of the program was designed for six middle school classes: two at 6<sup>th</sup> grade, two at 7<sup>th</sup> grade and two at 8<sup>th</sup> grade. The three math teachers had the opportunity to interview a group of artists and select one to collaborate with. After selecting their artist, the teachers met on several occasions to discuss the standards they were working on and the type of art that would best fit. They also generated ideas for a final project that best demonstrated the standard.

In order to evaluate the success of the program, each grade level also had two classes that did not participate. An anonymous survey was given to all students at each grade level prior to beginning the program and after completing the program. To evaluate this program, we used both qualitative and quantitative data.

### **The Survey**

Students were asked to read and rate the following statements:

- I usually do well in class.
- I love math
- It is important to improve math skills
- Math comes easily to me.
- I have fun learning math.
- I know I can do well in math.
- I would like to do more math in school.
- I look forward to learning math.
- I pay attention during math time.

Students could rate the statements with the following responses:

- Strongly agree (3 points)
- Agree (2 points)
- Disagree (1 point)
- Strongly Disagree (0 points)

Knowing that this simple evaluation process is far from scientific, we assigned each question a point value ranging from 0 to 3. Total points were used to measure positive attitude growth. If a student were to answer all statements with 'Strongly Agree' the maximum points possible would be 27, the lowest possible would be 0. Considering that the survey was anonymous, we did not intend to compare the students' independent attitude changes, however, we were able to compare them as grade level groups and compare the change of the participating students to the non-participating students. In order to ensure that only students who began and ended the program participated in the survey, their classroom teachers numbered each survey and kept track of that information. This number was used to ensure that the same students participated in the post survey. This method was used for all students regardless of class placement. The pre-surveys of students leaving the school prior to completing the program were not used. We were amazed that more than half of the pre-surveys were not matched to a post-survey, indicating a high degree of mobility of students.

### **Results for 6<sup>th</sup> grade**

In the sixth grade, a total of 38 pre and post surveys were used, 19 non-participating students and 19 participating. Based on this number, the possible points for a class would be: 19 students x 27 points each = 513.

The non-participating students began with a total attitude score of 488. Their combined score in November was 486, a drop of 2 points as a class. Looking at individual statements, there were 2 that caused this decline.

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- Math comes easily to me
- I would like to do more math in school

The 19 students who participated in the in-class art program began with a total attitude score of 486. Their combined score at the end of this program was 492 resulting in an increased attitude score of 6 points. Four of the statements had one point increase and 'I know I can do well in math' showed a gain of 2 points.

### Results for 7<sup>th</sup> grade

Seventh grade had a total of 42 students who took both the pre and post surveys, 21 non-participants and 21 participants. Their total possible points per class would be: 21 students x 27 points = 567.

The non-participating students began with a combined score of 500 points and an ending score of 501 points, an increase of 1 point. The statement that had an increase was, 'I know I can do well in math'.

The participating seventh graders began with a total score of 502 points and an ending score of 511, an increase of 9 points. The following statements showed increases:

- I have fun learning math – 3 points
- I know I can do well in math – 3 points
- I would like to do more math in school – 2 points
- I pay attention during math time – 1 point

### Results for 8<sup>th</sup> grade

Eighth grade had a total of 44 students take both the pre and post surveys, 22 non-participants and 22 participants. Their total possible points per class would be: 22 students x 27 points = 594.

The non-participating students began with a combined score of 505 points and an ending score of 509 points, an increase of 4 points. The statements that had an increase were, 'I know I can do well in math' and 'I pay attention during math time'.

The participating eighth graders began with a total score of 502 points and an ending score of 510, an increase of 8 points. The following statements showed increases:

- It is important to improve math skills.
- I know I can do well in math.
- I pay attention during math time.

### Summary

In each of the 3 grades there was a small yet positive increase in students' attitude toward math for the students participating in the program. The gains in positive attitude for non-participating students was much less and in 6<sup>th</sup> grade there

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was a small decrease. The school had a significant turn over in population, therefore, only the post-surveys of students who also participated in the pre-survey were used in this report.

### **Math Unit Assessments**

The charts in Appendix A show the results of the first two math unit assessments by grade and session. At each grade level, sessions 1 and 2 participated in the art integration and sessions 3 & 4 did not. The art integration program occurred during the first quarter of the school year (2-3 weeks in duration) and complemented the standards covered in these units. These results are for all students at each grade level, not just students who began and completed the art integration project.

### **Summary**

After reviewing unit and benchmark assessments, we found that the students participating in math/arts integration did not experience any negative growth in math. The art integration did not jeopardize learning math concepts, which was one fear of the math content teachers. The projects have beautified the school and students, staff and parents have expressed appreciation of this addition. See Appendix B, C and D.

### **Methodology for the 'After School Theatre Club'**

The After School Theatre Club was advertised to all students at the school. Students could take home a form and have their parents give their consent to stay 3 afternoons per week until 5:30. Transportation was provided as needed. Approximately 50 students began the program. Half of these students were interested in being actors (cast) and about half preferred to work backstage. The students working backstage were responsible for making all the sets. See Appendix D.

To evaluate this phase of the project, we were interested in tracking attendance because students were not allowed to attend the afterschool class unless they were in attendance during school that day. We also discussed using AZELLA results, however, only 2 participating students were English learners.

### **Attendance**

Within the first 2 weeks of starting the After School Theatre Club, twelve students dropped. The majority of these students moved or began a sports program that conflicted with the Theatre Club. The school day attendance record of 38 remaining students was examined and 15 of these students had chronic attendance problems with 4 or more days absent per month. Two of these students were excluded due to a major crisis that had occurred to cause these absences. Three students had frequent absences with at least 3 days absent per month. We used these 16 students for data collection.

### **Results**

Pre and post attendance was tracked on these 16 students. Attendance data was used for the months of September, October, November and December (the duration of the program) and were compared to attendance data collected after winter break for the months of January, February, March and April. During the 4 months of the program, collectively these 16 students were absent 120 full days and 5 partial days. The total number of absences for the 4 months after the conclusion of the theatre club for these 16 students was 259 days, a difference of 134 days, which was double from the time during their participation in the theater club.

### **Discussion and Limitation**

Through reflection it was identified that the timeline was a limitation to the project goals. The intent of the program was for the students to experience a complete immersion of arts integration for mathematics instruction. In meeting this goal the teaching artist spent two-three weeks in each math class, meeting everyday with the educator and students. According to the survey results we found that for future arts integrated learning opportunities extending the time that the teaching artist works with educators and students could further increase student motivation and be reflected in academic gains.

Teacher growth in instructional practices in year-one survey data showed that initially teachers were hesitant to implement arts integration. With demands increasing for accountability, teacher instructional time is a precious commodity. At the conclusion of year-one, teacher's perception of using the arts as a method to deliver math instruction was changed. Math teachers at AMS found at the conclusion of the program that students demonstrated improved motivation and their academic achievement was level, if not improved in comparison to the control group. Along with this evidence, data showed that stronger relationships were built with students and content relevancy was established. Mr. Crowther, the 6<sup>th</sup> grade math teacher stated, "Kids wanted to be there everyday." He also noted, "Kids now have a better understanding of how art and math work together". Mrs. Frazier, the 8<sup>th</sup> grade math teacher remarked, "At first kids didn't correlate the project to math at all. Then they realized that their math had to be accurate and they made connections to math".

Research demonstrates that art integration does not occur spontaneously, it must be deliberately introduced in stages over a period of years to a faculty already deeply invested in their existing methods (Charland, 2011). Researchers suggest that further professional development be encouraged to enhance teacher confidence in the use of art integration to address their feeling of insecurity about including art integration in their teaching practices (Dawson, 2007). This program is continuing to meet the needs of this faculty to demonstrate how the arts will benefit AMS student. This will be measured through teacher evaluation data. Prior evaluations will be used as baseline data. Only data regarding the following rubric indicators will be used to determine growth related to art integrated lessons: Standards and Objectives, Motivating Students, Presenting Instructional Content, Lesson Structure and pacing, Activities and Materials, Questioning, Academic Feedback, Grouping

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Students, Teacher Content Knowledge, Teacher Knowledge of Students, and Problem Solving.

Furthermore, The President's Council on Arts and Humanities, in promotion of arts education for all, suggests that to keep students engaged and competitive in a global environment their creativity and innovative thinking skills will need to be developed and nurtured (PCAH, 2011). Using the work of Fiske (1999) and the Catterall study (2009) research shows that schools that were "arts-rich" were successful. Studies also show that the arts engage students who are not otherwise interested in school and forge connections with these students through project-based learning and collaborations (Fiske, 1999). The arts have the potential to broaden content knowledge, develop abstract thinking skills, and precipitate complex and imaginative problem solving. Arts integration creates a new pathway for students to analyze, evaluate, and draw reasoned conclusions from their life experiences. By cultivating student curiosity through the use of the arts the relationships built between teacher and student will support higher academic achievement.

In a continued effort to improve school culture and instructional climate AMS will encourage arts integrated instruction to benefit the students. Cornett (2007) states, "There is a quiet but determined movement throughout K-12 education in this country led by teachers who have discovered the power of integrating the arts into their teaching (p. v)". These teachers are involved in integrating the arts with other content areas (English, mathematics, science, and social studies) to convey the knowledge, skills, and concepts with and across disciplines. Betts, Fisher, and Hicks (1995) saw this type of instruction as having "the power to turn a classroom into a creative environment full of friendly, accessible resources where the art of learning and the art of teaching thrive together" (p. 21). Increasing exposure to arts integration to both faculty and students will continue to provide transformative change in the classroom. When a school has a positive, professional culture, one finds meaningful staff development, successful curricular reform, and the effective use of student performance data. In these cultures, staff and student learning thrive as new research ties collegiality and collaboration to positive school outcomes. The partnership between Avondale School District and the Goodyear Arts and Culture Commission is an innovative way to collaborate with the community to create lasting improvement for student success and school improvement at Avondale Middle School.

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## Appendix A

Math Unit 1 AMS by Block (Number of Students)

Grade	Math Block	FB	AP	M	E	Grand Total
6	1	11	9	3		23
	2	20	1			21
	3	18	3	2		23
	4	10	9	3	1	23
6 Total		60	21	8	1	90
7	1	3	15	9		27
	2	9	13	1		23
	3	11	12			23
	4	11	12			23
7 Total		35	52	9		96
8	1	10	10			20
	2	13	5			18
	3	14	8			22
	4	12	7	1		20
8 Total		49	30	1		80
Grand Total		144	103	18	1	266

Math Unit 2 AMS by Block (Number of Students)

Grade	block	FB	AP	M	E	Grand Total
6	1	6	17			23
	2	18	3			21
	3	17	6	1		24
	4	7	17	1		25
6 Total		48	43	2		93
7	1	1	14	12		27
	2	15	8			23
	3	11	9			20
	4	14	11			25
7 Total		41	42	12		95
8	1	16	4	1	1	22
	2	17	2	1		20
	3	16	6			22
	4	18	5			23
8 Total		67	17	2	1	87
Grand Total		156	102	16	1	275



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### Appendix B – 6<sup>th</sup> Grade Mural (Standard 6.GA.1)



### Appendix C – 7<sup>th</sup> Grade Famous Architecture (Standard 7.RP.A)



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Appendix F – After School Theatre Club – Dress Rehearsal for primary grades





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### Appendix G – After School Theatre Club – Performance for Parents and Family



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