

2017—2018 Creative Learning Initiative: Sequential Fine Arts



About the Report

This report, which is the last in a series of three reports evaluating CLI for the 2017–2018 school year, evaluates secondary school student’s fine arts course enrollment and student outcomes. Though the discussion regarding student outcomes can be highly technical at times, the report uses side bars to give more advanced understanding of statistical methodology. In addition to this report, you can also reference the interactive report on **Secondary Fine Arts Participation** for more detailed information on implementation:

<http://www.austinisd.org/dre>

Click on **INTERACTIVE REPORTS** and select “**Secondary Fine Arts Participation**” from the **Online Reports List** on the top left



Executive Summary

The Creative Learning Initiative (CLI) is a community-wide effort to bring creative learning and the arts to each and every student in Austin. To ensure that all students have access to high-quality instruction in a variety of art forms on a regular basis, CLI leaders and the AISD's Fine Arts Department promote access to sustained learning for all prekindergarten through 12th-grade students in music, visual arts, dance, theatre, and the media arts. More specifically, to accomplish this goal, CLI provides participating schools with dance and theatre instructors to supplement elementary school fine arts offerings, and has advocated for AISD's fine arts academies, including Lamar and Covington Middle Schools, and Blackshear and Campbell Elementary Schools. At the district level, CLI staff have worked to bring consistency to the execution of existing arts education policies, exposed areas of inequitable access to arts education, advocated for future policies to enhance and ensure access to the arts, and consistently worked to raise awareness about the positive impacts of arts participation on student outcomes.

This report discusses the relationship between sequential fine arts enrollment and student outcomes for the school year 2017–2018 and how the relationships differ between different student groups.

Taking fine arts classes in AISD middle and high schools was positively rated to better school attendance and higher performance on STAAR tests. Secondary school students taking more fine arts courses had better attendance than did their peers taking fewer fine arts courses. Middle school students taking more fine arts courses had better academic achievement in both reading and math than their peers taking fewer fine arts courses. Positive relationships were also found between fine arts course enrollment and high schools academic achievement, such as STAAR EOC English 1, English 2, and algebra 1 tests. *We recommend that the district continues promoting the positive association of participation in the fine arts during course scheduling.*

Student characteristics moderated the relationships between fine arts course enrollment and students' school attendance and academic achievement. The relationships between the number of fine arts courses and student attendance rate was stronger for Hispanic student than for non-Hispanic students, at both high schools and middle schools. The relationship between the number of fine arts courses and high school students' z scores in the STAAR EOC algebra 1 test was negative for LEP students but positive for non-LEP students. *We recommend that CLI program explore instructional differentiation for those different student groups.*

Table of Contents

Executive Summary.....	ii
List of Figures	iii
List of Tables.....	iii
Program Description and Goals.....	1
Sequential Fine Arts and Student Outcomes	2
Finding 1. Secondary school students taking more fine arts courses had better attendance than did their peers taking fewer fine arts courses	2
Finding 2. Middle school students taking more fine arts courses had better academic achievement in both reading and math than their peers taking fewer fine arts courses	4
Finding 3. High school students taking more fine arts courses had better academic achievement than did their peers taking fewer fine arts courses.	5
Finding 4. High school students taking more fine arts courses reported lower engagement on the Student Climate Survey than did their peers taking fewer fine arts courses	7
Conclusion and Recommendations	8
References	9

List of Figures

Figure 1. Attendance was greater for secondary students who took more fine arts courses than for secondary students who took fewer fine arts courses	2
Figure 2. The relationships between the number of fine arts courses and student attendance rate was stronger for Hispanic students than for non-Hispanic students, at both high schools and middle schools.	4
Figure 3. Middle school students who enrolled in more arts classes had better academic outcomes than did students who enrolled in fewer art classes in math, reading, and algebra.	4
Figure 4. The relationship between the number of fine arts courses and middle school students' z scores in STAAR algebra 1 tests was stronger for Asian students than for non-Asian students.	5
Figure 5. High school students who enrolled in more arts classes had better academic outcomes than did students who enrolled in fewer arts classes in English 1, English 2, and algebra 1.	6
Figure 6. The relationship between the number of fine arts courses and high school students' z scores in the STAAR EOC algebra 1 test was negative for LEP students but positive for non-LEP students.	6

List of Tables

Table 1. Overall relationship between taking sequential fine arts (SFA) courses and student outcomes and moderating effects of student demographics on these relationships	2
--	---



Program Description and Goals

The fine arts (music, dance, theater, visual and media arts) are essential in a well-rounded education. The literacies and cultural heritage in these disciplines represent how people across cultures and generations interpret and express their understanding of the world around them, record and remember history, and make and keep community. The skills used in these classes can be used by professional artists and hobbyists, and transfer to almost every field and industry that involve skills (often referred as 21st-century skills). According to a study conducted by the Texas Cultural Trust and its partners MINDPOP, E3 Alliance, and Austin Independent School District (AISD) in November 2014, studying the arts contributes to positive academic outcomes for Texas students. For example, at the high school level, in addition to having better performance on state assessments, students who were engaged in the arts early in high school had lower dropout rates, higher graduation rates, and greater rates of enrollment in higher education in Texas than did students who were not (Texas Cultural Trust, 2015).

The Creative Learning Initiative (CLI) is a community-wide effort to bring creative learning and the arts to each and every student in Austin. To ensure that all students have access to high-quality instruction in a variety of art forms on a regular basis, CLI leaders and the AISD's Fine Arts Department promote access to sustained learning for all prekindergarten through 12th-grade students in music, visual arts, dance, theatre, and the media arts. More specifically, to accomplish this goal, CLI provides participating schools with dance and theatre instructors to supplement elementary school fine arts offerings, and has advocated for AISD's fine arts academies, including Lamar and Covington Middle Schools, and Blackshear and Campbell Elementary Schools. At the district level, CLI staff have worked to bring consistency to the execution of existing arts education policies, exposed areas of inequitable access to arts education, advocated for future policies to enhance and ensure access to the arts, and consistently worked to raise awareness about the positive impacts of arts participation on student outcomes.

This report discusses the relationship between sequential fine arts enrollment and student outcomes for the school year 2017–2018 and how the relationships differ between different student groups. The total number of fine arts class enrollments and the enrollment in various art forms are displayed in the interactive report on AISD's website.

Sequential Fine Arts and Student Outcomes

Multiple regression models were used to examine the relationships between sequential fine arts access and student outcomes, specifically, school attendance, student performance in State of Texas Assessment of Academic Readiness (STAAR) and STAAR end-of-course (EOC) tests, and student engagement. Students' socioeconomic status (SES) was treated as a control variable in all regression models. Students' special education statuses and race/ethnicity were also used to examine if there were any moderating effects of these student characteristics. The summary of findings from data analysis are shown in Table 1. Generally, more access to sequential fine arts was related to better school attendance and better test scores in STAAR. Students' limited English proficiency (LEP) status, special education status, and race/ethnicity moderated some of these relationships. Each finding is explained in more detail in the following sections.

Table 1.

Overall relationship between taking sequential fine arts (SFA) courses and student outcomes and moderating effects of student demographics on these relationships

High school		Moderating effects									
	Overall	LEP	Non-LEP	SPED	Non-SPED	Hispanic	Non-Hispanic	Asian	Non-Asian	2+ races	Non 2+ races
School attendance	↑					↑↑	↑				
STAAR EOC English 1	↑	-	↑	-	↑			-	↑		
STAAR EOC English 2	↑	-	↑	-	↑			-	↑		
STAAR EOC algebra 1	↑	↓	↑	-	↑			-	↑	-	↑
Student engagement	↓	-	↓								

Middle school		Moderating effects									
	Overall	LEP	Non-LEP	SPED	Non-SPED	Hispanic	Non-Hispanic	Asian	Non-Asian	2+ races	Non 2+ races
School attendance	↑					↑↑	↑				
STAAR 6 th -8 th reading	↑			-	↑						
STAAR 6 th -8 th math	↑							-	↑		
STAAR EOC algebra 1	↑	-	↑	-	↑			↑↑	↑	-	↑
Student engagement	-			↓	↑						

Source. AISD student attendance records, AISD student demographic records, STAAR and STAAR EOC records, AISD student course records

Note. SPED = special education, ↑ indicates a positive relationship between the fine arts courses taken by students in that group and school outcome, ↑↑ indicates a much stronger positive relationship between the number of fine arts courses and student outcome, ↓ indicates a negative relationship between fine arts courses enrollment and student outcome, "-" indicates no relationship. No moderating effect on the relationship between SFA course enrollment and student outcome is shown as blank. Representative samples were available based on White status and Black status, but no moderating effects were found on any student outcomes based on those differences.

In secondary school, students have individual agency in setting up their schedule to include various electives. Therefore, we track fine arts participation by academic records of course enrollment. We counted the number of fine arts course enrollments (regardless of passing status) by students who stayed at the same school 85% of the school year.

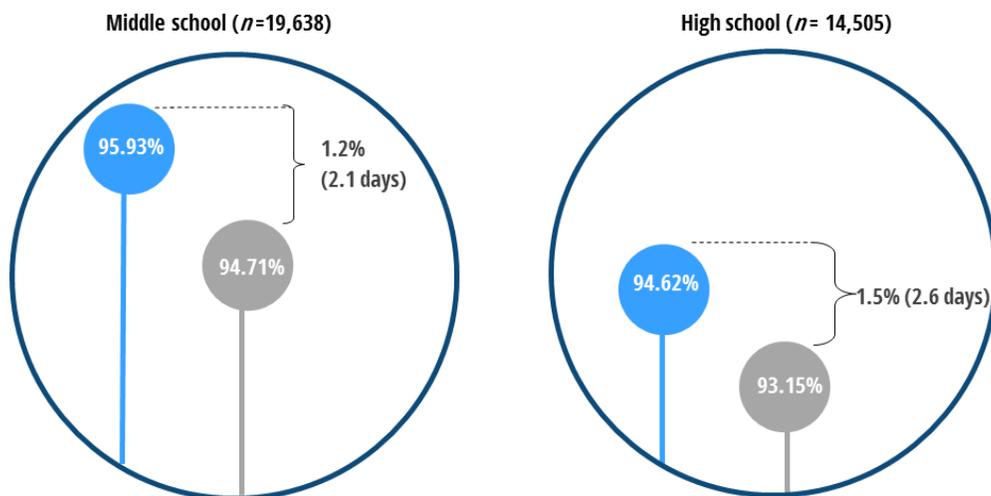
High school: At the high school level, a 1-credit requirement is tied to the graduation plan of every student by Texas law, which usually is taken over two semesters. A few isolated classes in floral design and interior design can meet this fine arts high school requirement per state law, but the majority of fine arts courses are offered in music, visual arts, dance, and theater. Many classes in film, photography, animation, graphic design, creative writing, and other fields do not officially carry the fine arts coding, as set by the state of Texas, but overlap with the goals of arts-rich education. Our counts of courses are restricted to the official code for fine arts courses.

Finding 1: Secondary school students taking more fine arts courses had better attendance than did their peers taking fewer fine arts courses.

The number of fine arts courses that students took during the 2017–2018 school year was significantly related to students' school attendance rates at both the middle school level ($\beta = 0.26, p < .001$) and the high school level ($\beta = 0.23, p < .001$), controlling for students' SES. This finding is consistent with the prior year's analysis and reporting, which found that the total number of fine arts course students completed during their tenure at the campus was significantly related to student's attendance rates (Andrews et al., 2018). The opportunities to participate in fine arts might have encouraged students to attend school more regularly. We divided the students into quartiles, based on their fine arts enrollment, and compared the attendance rates of students in the high and low fine arts enrollment quartiles (Figure 1).

Figure 1.

Attendance was greater for secondary students who took more fine arts courses than for secondary students who took fewer fine arts courses.

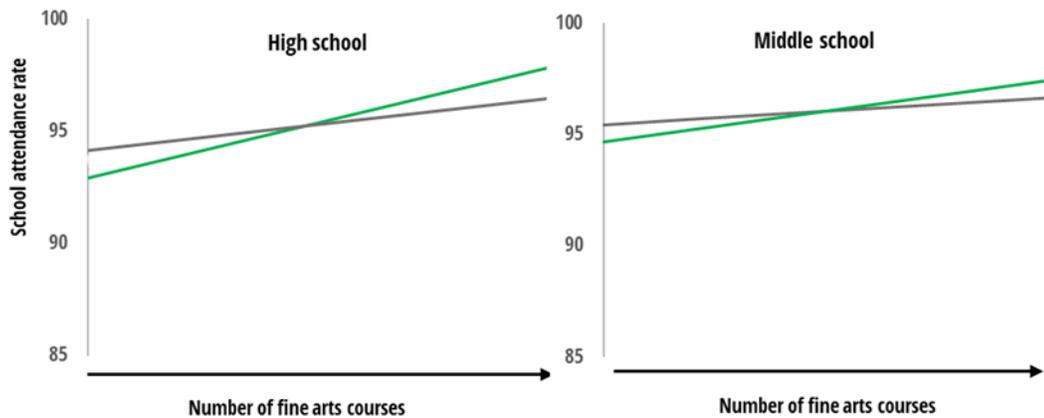


Source. AISD student attendance records, AISD course records

We also found a moderating effect of ethnicity on the relationship between fine arts course enrollment and students' attendance rates (Table 1). The number of fine arts courses in which students were enrolled was related to attendance rates more strongly for Hispanic students than for non-Hispanic students (Figure 2). While positive relationships were found for both groups, taking more fine arts courses seemed to be more positively associated with attendance for Hispanic students than non-Hispanic students. This was true for both middle school and high school students.

Figure 2.

The relationships between the number of fine arts courses and student attendance rate was stronger for Hispanic students than for non-Hispanic students, at both high schools and middle schools.



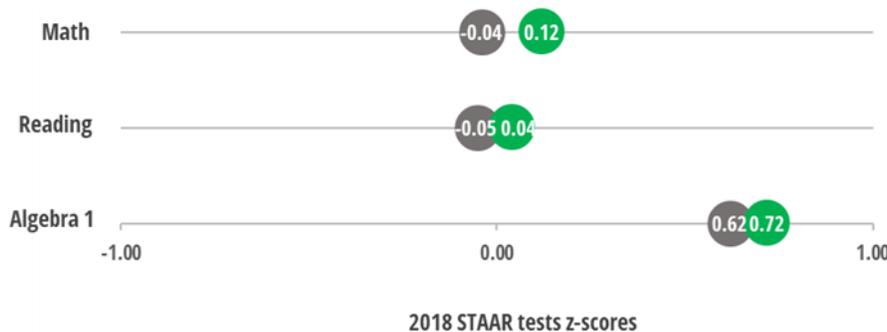
Source: AISD student attendance records, AISD course schedule records

Finding 2: Middle school students taking more fine arts courses had better academic achievement in both reading and math than their peers taking fewer fine arts courses.

We found a positive relationship between fine arts course enrollment and middle school students' academic achievement. The number of fine arts courses in which students were enrolled during the 2017–2018 school year was significantly related to their 2018 STAAR z scores in 6th- through 8th-grade reading ($\beta = 0.05, p < .001$) and math tests ($\beta = 0.04, p < .001$) (Figure 3). Z scores are used in this report to transform students' STAAR scale scores into a standard score across grade levels. When scores are scaled differently (e.g., student test scores are scaled at each grade level in each subject), it is impossible to compare them with each other. Transforming scores into z scores is a way to standardize scores so they can be fairly compared or combined between groups or over time. Z scores range from -3 to +3, 0 indicates the mean score, negative values indicate scores below the mean, and positive values indicate scores above the mean.

Figure 3.

Middle school students who enrolled in more arts classes had better academic outcomes than did students who enrolled in fewer art classes in math, reading, and algebra.



Source: AISD student 2018 STAAR records, AISD course records

Middle school: Texas requires that middle school students take one fine arts course, which AISD teaches over 1 school year. AISD scheduling policy is that each middle school student should take 1 year of a fine arts course between 6th and 8th grade, but the school staff still have a great deal of discretion in what counts as a fine arts course and when exceptions to the policy can be made. Like in high school, many middle school courses that a school might teach integrate the arts heavily (e.g., math and music) or fall in areas that are not officially coded as fine arts (e.g., film, photography, game design). Additionally, most of the dance courses taught in middle school are not coded as fine arts courses, but their instruction is likely aligned with many of the middle school dance Texas Essential Knowledge and Skills (TEKS).

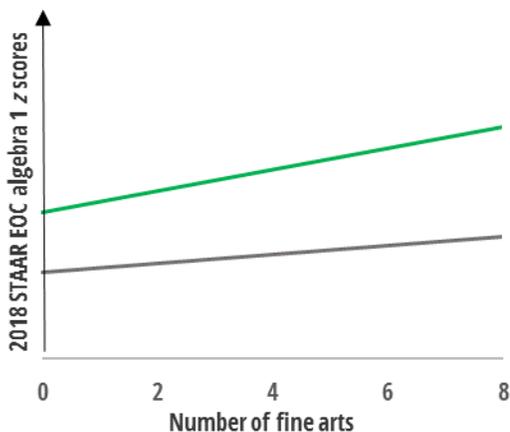
Student demographics for this report

	High School (<i>n</i> = 19,638)	Middle School (<i>n</i> = 14,505)
SPED	10%	12%
LEP	13%	22%
Hispanic	54%	55%
Black	10%	10%
White	72%	77%
Asian	6%	6%
2+ races	3%	3%

These relationships between the number of arts courses taken and academic outcomes were consistent across the largest groups of middle school students (Hispanic, White, Black, two or more races, and LEP status). However, we noticed the positive relationship in reading did not extend to special education students (12% of population), and the positive relationship in math did not extend to Asian student (6% of population) (Table 1). The relationship between the number of fine arts courses in which students were enrolled and STAAR 6th- through 8th-grade reading *z* score was significant for non-special education students ($\beta = 0.04, p < .001$) (Figure 4). However, the relationship was not significant for special education students. Similarly, the number of fine arts courses was significantly related to STAAR 6th- through 8th-grade math *z* scores for non-Asian students ($\beta = 0.04, p < .001$), but the relationship was not significant for Asian students.

We also found a positive relationship between fine arts enrollment and middle school students' achievement on the algebra EOC exam ($\beta = 0.03, p < .01$). These students account for a smaller portion of middle school students (13%) because algebra is an advanced course in middle school. This positive relationship did not extend to students of two or more races (4%), LEP students (4%), or special education students (1%). Interestingly, the positive association between algebra EOC scores and fine arts enrollment was even stronger for Asian middle school students (*n* = 217) (Figure 4).

Figure 4. The relationship between the number of fine arts courses and middle school students' *z* scores in STAAR algebra 1 tests was stronger for Asian students than for non-Asian students.



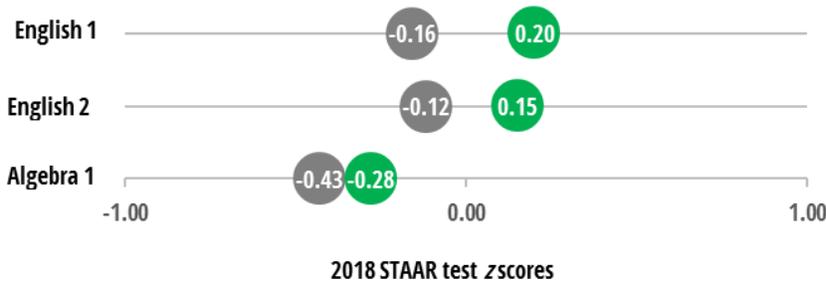
Source. AISD 2018 STAAR records, AISD course records

Finding 3: High school students taking more fine arts courses had better academic achievement than did their peers taking fewer fine arts courses.

After controlling for student's SES, we found positive relationships between fine arts course enrollment and high school students' academic achievement, as measured by high school students' *z* scores in 2018 STAAR EOC English 1 ($\beta = 0.06, p < .001$), English 2 ($\beta = 0.05, p < .001$), and algebra 1 *z* scores ($\beta = 0.02, p < .001$) (Figure 5).

Figure 5.

High school students who enrolled in **more arts classes** had better academic outcomes than did students who enrolled in **fewer arts classes** in English 1, English 2, and algebra 1.



Source. 2018 STAAR, AISD course schedule records

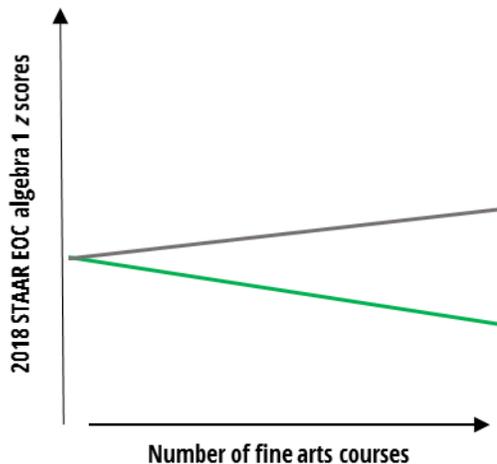
Note. English 1 $n = 5,580$, English 2 $n = 5,686$, and algebra 1 $n = 2,985$.

These relationships were consistent across the largest groups of high school students (Hispanic, White, Black). However, in some cases, the positive relationship did not extend to the smaller groups of high school students. We noticed the positive relationship in both English 1 and English 2 did not extend to special education (14% of population), LEP (22%), or Asian students (5%).

While the relationship between the number of fine arts courses taken and STAAR EOC algebra 1 z scores were *not* significant for special education students, Asian students, or students of two or more races, the relationship was positive for non-special education students, non-Asian students, and students who were not identified as two or more races. For high school LEP students, taking more fine arts courses seemed to be related to lower scores in STAAR EOC algebra 1 test ($\beta = -0.08$, $p < .001$). Contrarily, taking more fine arts courses was related to higher STAAR EOC algebra 1 test scores for high school non-LEP students ($\beta = 0.05$, $p < .0001$) (Figure 6).

Figure 6.

The relationship between the number of fine arts courses and high school students' z scores in the STAAR EOC algebra 1 test was negative for **LEP students** but positive for **non-LEP students**.



Source. 2018 STAAR, AISD course schedule records

Finding 4: High school students taking more fine arts courses reported lower engagement on the Student Climate Survey than did their peers taking fewer fine arts courses.

After controlling for students' SES, we found that high school students who took more fine arts courses tended to report lower engagement in school ($\beta = -0.04, p < .001$). Student engagement scores represent a student's engagement in all aspects of their school, not just their fine arts classes, and were derived from a subset of seven questions on the 2017–2018 Student Climate Survey:

- I like to come to school.
- My schoolwork makes me think about things in new ways.
- I have fun learning in my classes.
- I enjoy doing my schoolwork.
- My homework helps me learn the things I need to know.
- My teachers connect what I am doing to my life outside the classroom.
- I receive recognition or praise for doing good work.

Studies of student engagement in AISD have found that students with higher SES were more likely to report lower engagement on the Student Climate Survey (Fayles, 2018). A comparison of engagement between White students and Black students found that White students tended to report lower emotional engagement, while they reported higher behavioral engagement than did Black students (Wang, Willett, & Eccles, 2011). These findings suggest that student engagement might be a complex measure that is influenced by many factors. Further examination is needed to decipher the relationships between student demographics, campus culture, and student engagement. It is possible that students who enrolled in more fine arts courses had higher expectations for school culture and teacher instruction than did students who did not enroll.

When we examined the relationships for each student group, we also found that the negative relationship between the total number of fine arts courses and students' reported school engagement only existed for non-LEP high school students. At the middle school level, no relationship was found between fine arts course enrollment and student engagement. However, special education students who took more fine arts classes seemed to report lower engagement than did special education students who did not enroll.





Conclusion and Recommendations

Overall, taking fine arts classes in AISD middle and high schools was positively related to better school attendance and higher performance on STAAR tests. These positive relationships carried over for the larger demographic groups of secondary students. However, our findings also showed that inequalities existed between some of the smaller demographic student groups (e.g., LEP status, special education status, and students who are Asian or two or more races). Though these results are promising for most students, it is still early to conclude that taking more fine arts courses necessarily benefits all students. This report examines how fine arts course enrollment was related to student outcomes from only one year's data. It is possible that students with higher academic achievement in the prior years were more likely to take more fine arts classes or that lower-performing students are counseled out of enrolling in fine arts courses. Future studies should look at change in student outcomes over time to examine if fine arts course enrollment is related to improvement in student outcomes. Given the evidence shared in this report, we advise the following:

Recommendation #1: Promote the positive association of participation in the fine arts during course scheduling. Positive relationships between fine arts access and student outcomes found in these analyses support national studies in this area. Americans for the Arts reported that high school students with 4 years of arts courses had higher SAT scores than did students with half a year or less of art courses (Americans for the Arts, 2016). Similarly, Abigail (2018) found that the length of arts education positively predicted academic achievement and growth in reading and mathematics of elementary school students. Moving forward, we recommend that the positive association of participation in fine arts courses with higher attendance and better academic outcomes be promoted at the district level to inform the process of secondary students' course selection. Ideally, parents, students, and counselors should consider sequential fine arts courses as strategic tools for promoting student academic achievement, and not simply as optional courses taken "just for fun."

Recommendation #2: Explore instructional differentiation for special education and LEP students. In this report, we noted several positive relationships for most students that did not extend to special education and LEP students. Additionally, in two cases, the data suggest that more enrollment in fine arts courses had a negative relationship with student outcomes in these populations. For special education students, a negative relationship was found between arts course enrollment and high school algebra EOC scores, and for LEP students, a negative relationship was found with overall school engagement. To ensure equity and inclusion, we recommend that program leaders seek to understand what factors might be contributing to these trends in the data.

References

- Catterall, James S. (2009). *Doing Well and Doing Good by Doing Art: The Effects of Education in the Visual and Performing Arts on the Achievements and Values of Young Adults*. Los Angeles/London: Imagination Group.
- Heath, S. B., Soep, E., & Roach, A. (1998). Living the arts through language learning: A report on community based organizations. *Americans for the Arts, 2(7)*, 1–20.
- Ruppert, Sandra. (2006) Critical Evidence: How the Arts Benefit Student Achievement. *National Assembly of the State Arts Agencies*. Retrieved from <https://files.eric.ed.gov/fulltext/ED529766.pdf#page=9&zoom=auto,-189,183>
- Kania, J., & Kramer, M. (2011). Collective impact. *Stanford Social Innovation Review*. Retrieved from https://ssir.org/articles/entry/collective_impact
- Texas Cultural Trust. (2015). *The art of ensuring a bright future for Texas*.
- RealVisions. (2007, June). *Montgomery County Public School Arts Integration Model Schools Program 2004-2007*. Berkeley Springs, WV: Real Visions.
- Wang, C., Christian, C., & Hasty, B. (2016). *Creative Learning Initiative Annual Report 2015-2016*. Austin, TX: Austin Independent School District.
- Wang, C., Christian, C., & Hasty, B. (2015). *Creative Learning Initiative Annual Report 2014-2015*. Austin, TX: Austin Independent School District.

AUSTIN INDEPENDENT SCHOOL DISTRICT

Authors

Melissa Andrews, M.A., M.Ed., Cinda Christian, Ph.D., Holly Williams, Ph.D., Hui Zhao, Ph.D.

Department of Research and Evaluation



1111 West 6th Street, Suite D-350 | Austin, TX 78703-5338

512.414.1724 | fax: 512.414.1707

www.austinisd.org/dre | Twitter: @AISD_DRE

January 2019

Publication 17.57