

Arts Education Makes a Difference in Missouri Schools



A Study of Fine Arts Education
in Missouri School Districts
Funded by the Missouri Arts Council



Missouri Alliance
for Arts Education





Missouri Alliance for Arts Education

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ABOUT THE MISSOURI ALLIANCE FOR ARTS EDUCATION:

The Missouri Alliance for Arts Education (MAAE), a member of the Kennedy Center Alliance for Arts Education and an affiliate of Americans for the Arts, is a not-for-profit membership organization that works to develop and implement a statewide comprehensive arts education plan with the goal of making the arts a basic part of education for all Missourians. Key activities of the MAAE include sponsoring an annual Fine Arts Education Day at the state capitol, providing professional development for teachers and visual and performing artists, advocating for the Missouri Fine Arts Academy and other statewide programs, and supporting other state and national arts education initiatives.

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Missouri Arts Council
Missouri Art Education Association
Missouri Arts Education Collaborative
Missouri Association of Community Arts Agencies
Missouri Association of Jazz Education
Missouri Choral Directors Association
Missouri Citizens for the Arts
Missouri Dance Organization
Missouri Department of Elementary and
Secondary Education
Missouri Fine Arts Academy
Missouri School Boards' Association
Missouri Thespians
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David Kerr
Director

Missouri Arts Council
Nola Ruth, Chair



Beverly Strohmeier
Executive Director

March 1, 2010

Dear Friends,

The Missouri Arts Council (MAC), a state agency dedicated to broadening the appreciation and availability of the arts in our state, is pleased to support the completion and release of “Arts Education Makes a Difference in Missouri Schools.”

We at MAC believe that the arts play a vital role in the life and well-being of our communities; this includes the belief that all children in our state deserve access to quality education in the fine arts.

MAC was pleased to be a catalyst and partner in this important study, which was made possible through the tireless effort of the leadership of the Missouri Alliance for Arts Education and the cooperation of representatives from the Missouri Department of Elementary and Secondary Education.

We believe this report makes a significant contribution to what we know about the fine arts in our state’s schools. It provides strong support for maintaining, if not increasing, the current levels of arts education available to Missouri students, even in these uncertain economic times.

As we continue to address MAC’s strategic goal, Strengthen Missouri Education Through the Arts, with the objective of advocating for arts education in Missouri schools by supporting Missouri evidence-based research on learning through the arts, we hope this report will provide the much-needed evidence for the educators, administrators, policy-makers, parents, students, and others who advocate for quality arts education in the State of Missouri.

Sincerely,

A handwritten signature in black ink, reading "Beverly Strohmeier". The signature is written in a cursive style with a large, prominent initial "B".

Beverly Strohmeier
Executive Director

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March 1, 2010

To the readers of this report:

During the past several decades, numerous research studies have been published that examine the extent and value of study in and through the arts. This body of research has been extremely valuable in informing the public and educators as to the possible effects of arts education on student learning as well as a variety of other factors. Even though this research has been valuable and informative to Missouri educators and decision makers, there has always existed the need for Missouri-specific data to assist our state in the important decisions regarding the place of education in and through the arts in our schools.

With the encouragement of members from both the executive and legislative branches of our state government, the Missouri Alliance for Arts Education (MAAE) answered the need and began a three-year process to obtain data that was lacking in Missouri. The generous financial support of the Missouri Arts Council and the sharing of school data by the Missouri Department of Elementary and Secondary Education have helped to make the present study possible. Thanks also to the vision of the fifteen statewide organizational members of MAAE, the guidance of the MAAE Research Committee, and the expertise and hard work of Dr. Leslie Scheuler.

This study represents a “milestone” in educational research in our state, as well as the nation. It will provide much needed data for informing future curricular decisions and for enhancing arts education in our state’s schools as well as contribute to the body of ongoing research nationally. It is our hope that this study will provide the basis and the impetus for continued longitudinal research into the effects of education in and through the fine arts (music, art, dance and theatre) upon the success and well being of our state’s future citizens.

Sincerely,

Robert M. Gifford, D.M.A.
Chair, Missouri Alliance for Arts Education



Arts Education Makes a Difference In Missouri Schools

March, 2010

**By Leslie Scheuler, PhD
President and Founder, LS Associates**

The author wishes to thank the following individuals
for their assistance in the preparation of this report:

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Arts Education Makes a Difference in Missouri Schools

Key Findings:

According to an analysis of “core” data submitted to the Missouri Department of Elementary and Secondary Education by the state’s public school districts, fine arts education is significantly related to higher standardized test scores, higher attendance and graduation rates, and lower disciplinary rates for serious student infractions.

Specific findings include the following:

- Nearly all students in Missouri public schools have opportunities to participate in fine arts education, particularly in the areas of Visual Art and Music. Course offerings in Dance and Theater are limited.

- The level of student participation in fine arts classes at the district level is highly correlated to student disciplinary rates. That is, the higher the number of fine arts courses and the student enrollment in these courses¹, the lower the rate of infractions that require student removal from the classroom.

- Attendance rates are higher for districts with higher levels of student enrollment in the arts when compared to districts with lower levels of arts participation.

- Levels of student participation in arts education are significantly correlated to multiple measures of student proficiency in Mathematics, with higher arts participation equaling higher Math scores (on standardized tests) at the district level.

- Standardized test scores in Communication Arts, for students in the sixth

through eighth grades, are also significantly higher in districts with more arts participation.

- Student participation in arts education shows a significant and positive correlation with high school graduation rates. Missouri school districts with higher levels of student participation in the arts showed higher graduation rates than districts with lower levels of arts education.

- When controlling for district poverty levels, the relationships between arts participation and indicators of positive academic performance are still significant, particularly in the following areas: disciplinary rates, high school graduation rates, and standardized test scores in Math and Communication Arts.

- When controlling for the percentage of **minority** students (or racial/ethnic groups that tend to **show lower levels of academic achievement**), the link between arts education and positive district/student indicators was still significant for the following: disciplinary rates, graduation rates, and standardized test scores in Math and Communication Arts.



Missouri Alliance
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Conclusions:

Clearly, student participation in fine arts courses is related to a number of positive educational outcomes in Missouri public schools

■ **Clearly, student participation in fine arts courses is related to a number of positive educational outcomes in Missouri public schools**, including disciplinary, attendance, and graduation rates, and standardized test scores in Math and Communication Arts.

■ **The positive relationship between fine arts participation and student outcomes is true for districts across the socioeconomic spectrum.** That is, the study findings apply to districts with high percentages of children in poverty and of those from minority racial/ethnic backgrounds.

■ While we can't claim that participation in fine arts courses **causes** higher academic achievement, study results definitely suggest that opportunities for **fine arts education in Missouri schools should be increased or, at the very least, maintained.** There is no evidence that fine arts courses or instructional time in the arts should be cut as districts work for higher test scores as required by the provisions of federal legislation.

■ Other recommendations include the following:

- Recognize and support the arts as a core component of the academic curriculum
- Maintain funding levels for fine arts education
- Increase the availability of courses in Theater and Dance
- Support future research to help develop a more comprehensive picture of the State of Fine Arts Education in Missouri and to provide specific information to schools and districts for strengthening the quality and availability of fine arts education to students across the state.



Arts Education Makes a Difference in Missouri Schools

“All Missourians are eager to ensure that graduates of Missouri’s public schools have the knowledge, skills and competencies essential to leading productive, fulfilling and successful lives as they continue their education, enter the workforce and assume their civic responsibilities. Schools need to establish high expectations that will challenge all students to reach their maximum potential.”

*-- The Missouri Department of Elementary and Secondary Education
Webpage on the Show-Me Standards*

INTRODUCTION:

Since the 1980s, and intensifying during the years following the passage of federal No Child Left Behind (NCLB) legislation in 2001, State educational systems have been working diligently to implement standards-based education to support the abilities of children and youth to live full and successful lives. NCLB included an emphasis on Communication Arts, Mathematics and Science as “core academic subject areas,” and requires public school districts to demonstrate “Adequate Yearly Progress” on standardized tests in these subjects.

This focus on “the basics” and standardized test results has, in many respects, weakened, or called into question, the place of fine arts education in the public school curriculum. For example, a 2009 study by the US Government Accountability Office (GAO) found that instruction time in the arts has decreased for many students in the US, particularly for students in schools identified as needing improvement under the provisions of NCLB. Specifically, in the schools needing improvement, more instructional time was spent in the key tested areas of Communication Arts and Mathematics, than in all the other subjects combined, with the arts comprising only 6 percent of the time spent.

In 1990, well in advance of the impact of NCLB, Missouri’s Arts Education Task Force established a comprehensive plan to include the arts as a basic component of every child’s education. Research studies, core principals, assessment, and community development were all outlined in the Task Force report to demonstrate how the arts could contribute toward improving student learning and achievement. Endorsed by Governor John Ashcroft and Commissioner of Education Robert Bartman, the report documented how arts advocates, school districts, colleges, and communities could implement arts education programs in all of the state’s school districts as well as develop better arts education training for teachers.

This report was followed by a 1992 position paper published by the Missouri Arts Council on how to expand fine arts education and how the fine arts relate to other subject areas. Essentially, this report can be viewed as an extension of the 1990 plan to incorporate a sequential arts program into Missouri’s schools, outlining the conditions and expectations for teaching fine arts as well as for preservice and inservice education for fine arts specialists and classroom teachers.

Four years later, in 1996, the Missouri State Board of Education adopted standards for

the fine arts as part of the Show-Me Standards. Today, Missouri public school students are required to participate in fine arts courses at the elementary and high school levels. Specifically, at the elementary level, districts are required to provide 50 minutes of visual art and 50 minutes of music per week for students in grades Kindergarten

through 5 in self-contained classrooms. In addition, one fine arts credit is required for high school graduation. Conversely, there are no fine arts requirements for students in middle school, although districts are required to provide opportunities for students to take 1,500 minutes of instruction in Art or Music.

From Access to Outcomes: An Overview of Arts Education Research

In response to the national educational agenda focusing on standards and test scores and the discussion about the place of arts education in the curriculum, numerous research studies have been conducted on both the availability of arts education in schools across the country, and on the relationship between arts education and student academic achievement.

In the last 10 years, studies of arts education in public schools have been released for nearly a dozen states, including Michigan (Arts Alive!, Art Serve, 2001), California (Quality, Equity, Access, CAAE, 2005; Sound of Silence, Music for All Foundation, 2004), Illinois (Arts at the Core, Illinois Creates Coalition, 2005), Kentucky (Status of Arts Education in Kentucky Public Schools, Collaborative for Teaching and Learning, 2005), New Jersey (Project within our Power, New Jersey Arts Education Census Project, 2006), Washington (Arts for Every Student, AERI, 2006), Texas (Academic Performance, Drop Out Rates and Attendance Rates in Texas

Public Schools Correlated to Fine Arts Course Enrollment, TMEA and TCQAE, 2007) and New York (Staying in School, CAE, 2009). Some of these studies have documented gaps and disparities in access to quality arts instruction. For example, the Illinois study (Arts at the Core: Every School, Every Student, Illinois Creates Coalition, 2005) found that Illinois students lacked equal access to arts education, with 20% of the state's principals indicating their schools had no arts program of any kind. In California, The Sound of Silence report (Music for All Foundation, 2004) documented the "unprecedented decline of music education" in the state's public schools, showing that the percentage of all California students involved in music education courses declined by half over a five-year period (the 1999-2000 academic school year through 2003-2004).

In regards to the arts and student academic performance, numerous studies have emerged documenting relationships between arts education and positive student



outcomes in the areas of standardized test scores, graduation rates, and overall attendance and interest and positive attitudes in school. In 1999, 2002, and 2006, three particularly groundbreaking reports were released. *Champions of Change: The Impact of Arts on Learning* (Fiske, 1999), produced by the Arts Education Partnership, in collaboration with the President's



Committee on the Arts and the Humanities, included James Catterall's (Catterall et al., 1999) analysis of the Department of Education's National Education Longitudinal Study (NELS) 1988 database of 25,000 students. Among the study's findings: Students with high levels of arts participation outperform students with low levels of arts participation on nearly every measure. This study focused on children in Grades 8 through 12 and on the potential importance of sustained involvement in a single discipline, such as instrumental music and theater arts. The study showed a strong correlation between consistent high levels of involvement in instrumental music in the high school years and higher levels of mathematics proficiency and cognitive development in math by Grade 12 (this holds true generally, and for low SES

students as a subgroup, as measured by standardized testing and other markers). It also pointed to high levels of involvement in theater arts (sustained involvement in acting in plays and musicals, drama clubs, acting lessons) and gains in reading proficiency as measured by standardized testing and overall marks (A's and B's) in English; the analysis also showed gains in self concept and motivation and higher levels of empathy and tolerance for others. High theater arts participation was more significant for low-income students than those from high-income backgrounds.

Subsequent studies in 2002 and 2006 built upon the findings in *Champions of Change* and included the Arts Education Partnership's (AEP) *Critical Links: Learning in the Arts and Student Academic and Social Development*, funded by the National Endowment for the Arts and the U.S. Department of Education (Deasy, 2002) and the National Assembly of State Arts Agencies' *Critical Evidence: How the Arts Benefit Student Achievement* (Ruppert, 2006). *Critical Links* highlights and provides discussion about 62 research studies that examine the effects of arts education on students' social and academic skills, including further work by Catterall et al. (2002) and Vaughan and Winner (2002), discussing how arts may (and may not) affect SAT scores. *Critical Evidence* builds further upon the two earlier studies and makes a "case for the arts" by providing a compendium of strong education research and the ties between the arts and academic and social achievements.

More recently, research released by the Florida Department of Education (Kelly, 2009) including an analysis of a cohort of

12th grade students and fine arts enrollment points to these correlations:

- For the general population, the more music and arts classes taken, the higher the student achievement on all measures (including SAT scores and scores on the Florida Comprehensive Assessment Test).

- For students eligible for free/reduced-price lunch (an indicator of family socioeconomic status), the more music and arts classes taken, the higher the student achievement on all measures.

- For students across racial/ethnic groups, the more music and arts classes taken, the higher the student achievement on all measures.

- The more arts classes taken, the less likely a student is to drop out of the cohort group (a proxy for dropping out of school).

Another 2009 study, released by the Center for Arts Education (CAE), found that New York City schools that offered their students the most access to arts education also had the highest high school graduation rates, a finding consistent with previous studies (see, for example, Barry et al., 1990, and Clawson & Coolbaugh, 2001).

The current report adds to previous research with a focus on Missouri public school districts. This report is part of an overall, multi-year, statewide study of fine arts education in schools across the state.

The Statewide Study of Fine Arts Education in Missouri

STUDY BACKGROUND

The Missouri Alliance for Arts Education (MAAE) was founded in 1990 with the mission of “making the arts a basic part of education for all Missourians” by developing and implementing a statewide comprehensive arts education plan. In 2007, in light of the research that had been completed in other states, in response to the “Show Me” attitudes of those in the state who were familiar with some of this research but showed a desire to know if similar results were true specifically for Missouri, and to inform advocacy efforts in line with their mission, the MAAE began



exploring options for conducting a study of arts education in Missouri. This exploration was supported by staff consultation and a planning grant from the Missouri Arts Council (MAC), a state agency and division of the Missouri Department of Economic Development, with the strategic goals of increasing participation in the arts,



supporting Missouri's economy using the arts, and strengthening Missouri education through the arts. The MAAE, in collaboration with the MAC, identified a noted researcher (with St. Louis-based LS Associates) with extensive experience in the evaluation of arts education and outreach programs across the US to direct the study.

With resources provided by the planning grant, a series of meetings was conducted involving the study director², a committee of the MAAE created to oversee the study (which included the MAC Arts Education Program Specialist), and the Fine Arts Consultant and Director of State Core Data for the Missouri Department of Elementary and Secondary Education (DESE). The resulting plan called for a multi-phase study that would begin with the analysis of data that was already available through the DESE Core Data system, a web-based data collection system for use by public

school districts in reporting information that shows they are in compliance with numerous state and federal accountability requirements. School districts submit data six times each year, which includes information on student populations, student enrollment, and attendance; student discipline/infractions; academic calendars, course information, and course enrollment; teacher credentials and professional development; and student graduation/drop-out statistics (along with many other data elements). The online system maintained by DESE also includes standardized test results in Communication Arts and Mathematics for both the state-specific Missouri Assessment Program (MAP) and the TerraNova assessment³.

Thus, the current study represents a collaborative effort of the Missouri Alliance for Arts Education and the Missouri Arts Council, in cooperation with the Department of Elementary and Secondary Education, under the direction of an external researcher.

PURPOSES OF THE STUDY

Although a number of studies on arts education and academic outcomes have already been conducted at state and national levels, the Missouri Alliance for Arts Education recognized the need to initiate Missouri-specific research that recognizes the uniqueness of the state's educational system and addresses the particular situations of Missouri schools. The purposes of this initial phase of the statewide study on arts education include using DESE State Core Data to: 1) explore the availability of fine arts education across arts disciplines and according to basic student/school/district characteristics; 2) explore the relation-

² Leslie Scheuler, PhD, President and Founder of LS Associates

³ Each year, students in the following grades are tested: third through fifth, sixth through eighth, and tenth.

ships between student participation in arts education and positive academic indicators at the district level; and 3) explore the relationships between student participation in the arts and academic achievement, including standardized test scores and high school graduation rates (also at the district level).

Another purpose of this study was to identify areas for future research to further address questions regarding the availability and efficacy of fine arts education in Missouri. The overall goal of the multi-phase examination of arts education in the state is to provide a solid foundation of evidence for use in fulfilling aspects of the missions of the MAAE and MAC: to support the availability of quality fine arts education for all Missouri students.

METHODOLOGY

As previously stated, this part of the multi-phase study involved the analysis of data submitted by school districts across the state to the Missouri Department of Elementary and Secondary Education's Core Data System. Analysis of the data began in 2008; thus, the data included in this study were submitted by school personnel during the 2007-08 academic year. Because Core Data are submitted multiple times per year by diverse educational personnel with varying levels of experience and expertise in data collection and reporting, it was recognized early on that the potential for errors in the information was relatively high. Thus, each stage of the analysis involved careful reviews of the submitted data⁴.

The first stage, after the merging of data from various modules of the Core Data,

involved removing districts with significant levels of missing data⁵ as well as charter schools and "special" districts (like the Missouri School for the Deaf and instructional programs of the Missouri Department of Corrections) that were not the focus of the research, resulting in a total of 514 districts for inclusion in the study.



The following approaches were used in examining the Core Data:

- Summary or descriptive analysis regarding arts courses across districts and disciplines;
- Correlational analysis⁶ to examine the relationships between student participation in fine arts courses and behavioral and academic indicators;
- The comparison of means (or averages)⁷ to further explore differences among behavioral and academic indicators for districts with varying levels of student participation in the arts; and
- The use of regression models to examine the relationships between arts

⁴ During these reviews, it was determined that some data elements lacked the specificity needed for a meaningful analysis (like the grade levels of students participating in specific arts courses, which were mostly reported for categories/ranges of grade levels that were not mutually exclusive) or that the data was incomplete or included reporting errors (like the data on placement rates of graduates after high school). Thus, indicators like these were not included in the current study.

⁵ There were nine districts removed due to missing data.

⁶ Using Pearson Product-Moment correlations.

⁷ Using Analysis of Variance (ANOVA) and post-hoc statistical tests.

participation and behavioral and academic indicators when controlling for: 1) student family income levels and 2) student racial/ethnic backgrounds.

Additional information on methodology is included in relevant sections of study results that are reported below.

**STUDY RESULTS:
Fine Arts Courses in Missouri Schools**

Information on fine arts courses for the 514 districts in the analysis of Core Data include the following:

Percent of Districts that Offer Courses in this Area:	
Courses in the Visual Arts	99.8%
Courses in Music	99%
Courses in Drama	41%
Courses in Dance	1%
Courses in "Allied Arts" (a combination of arts disciplines)	.6%

N=514 total districts

■ **Ninety-nine percent or more of these Missouri districts offered courses in the Visual Art and Music.** Although Missouri districts are required to provide these classes at the elementary level, there was one district that indicated it did not provide any courses in Visual Arts to its students, and five districts indicated they did not provide courses in Music.

■ **Visual Arts and Music courses were offered across the elementary, middle, and high school levels.** The most frequently offered course in the Visual Arts was General Art although courses in Ceramics, Drawing, Design and Photography made up approximately 15% of all art classes offered in the state. The most frequently offered courses in Music included Vocal Music, Band, and Chorus/Choir.

■ **Less than half of Missouri districts (41%) offered their students courses in Theater or Drama.** Because the focus of the study was on fine arts courses as defined in the DESE Core Data, literature courses related to Drama (for example, classes on Shakespeare) were not included if they were not reported as courses in Theater or Drama by the district. Approximately 70% of all Drama classes were offered at the high school level; the rest were offered to middle school students.

■ **Only four districts (1% of the districts in the analysis) offered Dance classes.** These classes were mostly offered at the middle and high school levels, and did not include physical education units that included dance.

■ **Three districts offered classes in the Allied Arts** (combining or integrating instruction in two or more arts disciplines). These results confirm that courses in the Visual Arts and Music are widely available to students in Missouri, a finding that is not surprising given the state requirements to provide art and music instruction to all elementary-aged students, along with requirements to provide arts electives in middle school and the mandate that all

high school students take at least one arts course for graduation. Thus, although there is anecdotal information that some Missouri districts are cutting instruction time in the arts in response to the need for increased standardized test scores, Missouri has not experienced the severe cutbacks in arts instruction (since the NCLB legislation was enacted) as reported for states like California and Michigan.

However, results do suggest that opportunities for arts education in Missouri schools are limited in terms of availability across arts disciplines. Less than half of the districts report offering Drama courses although a number of studies have found that student participation in Drama and Theater programs can be related to positive learning outcomes in other areas (de la Cruz, 1995; Horn, 1992; Moore and Caldwell, 1993). And only 1 percent reported offering Dance classes, which may not only produce these outcomes but can

also help address other student needs, including the need for more engaging physical activity in order to prevent or treat childhood obesity (Flores, 1995; Fromel et al., 2002; Graves and Townsend, 2000).

Consistent with the findings of reports from other states on the availability of fine arts education (see, for example, the Center for Arts Education 2009 study of arts education in New York City schools; CAE, 2009), Missouri districts in communities with higher median incomes and lower percentages of Hispanic and African American students tended to offer more opportunities for arts participation to their students. The availability of fine arts opportunities was not, however, related to the type of community as defined by population density; that is, rural, suburban, and urban districts tended to be similar in the level of arts education they provided to their students.

Measures of Arts Education Participation and Student Outcomes

As previously mentioned, other studies at the national and state levels have found significant relationships between arts education and student outcomes, including standardized test scores and other measures of academic proficiency, high school graduation (or drop-out) rates, and positive attitudes, empathy toward others, and positive behavior. Most of these studies were based on data available on a student-level basis. However, data for individual students, which would enable a study of educational outcomes for students based on their individual levels of arts participation, is not currently available for Missouri public school districts⁸. Instead, the first



phase of this study examined data available from the Core Data system at the district level. Measures used in this analysis include the following:

LEVEL OF STUDENT PARTICIPATION IN FINE ARTS EDUCATION AT THE DISTRICT LEVEL:

As a measure of arts education in specific districts, an indicator of the **level of student participation in fine arts courses** was created from the Core Data as the total number of students (at all grade levels) enrolled in visual art, music, drama, dance, and allied arts classes in each district divided by the total student enrollment in that district. This created a ratio that reflects, in effect, both the number of arts classes available in the district and the level of student enrollment in these classes, while controlling for the size of the district.

INDICATORS OF STUDENT BEHAVIOR AT THE DISTRICT LEVEL:

- The **student attendance rate**, which is defined as the number of school attendance hours reported for all students in the district divided by the total possible number of school hours.
- The **student disciplinary rate**,

⁸ The Missouri Department of Elementary and Secondary Education is currently working to make student-level data available for analyses like the current one and expect to have these data accessible by the end of 2010.

which was expressed in the Core Data as the number of disciplinary incidents that resulted in in-school or out-of-school suspension (including infractions for alcohol, weapons, illegal drugs, tobacco, and acts of violence) per every 100 students enrolled in the district.

INDICATORS OF STUDENT ACADEMIC PERFORMANCE AT THE DISTRICT LEVEL:

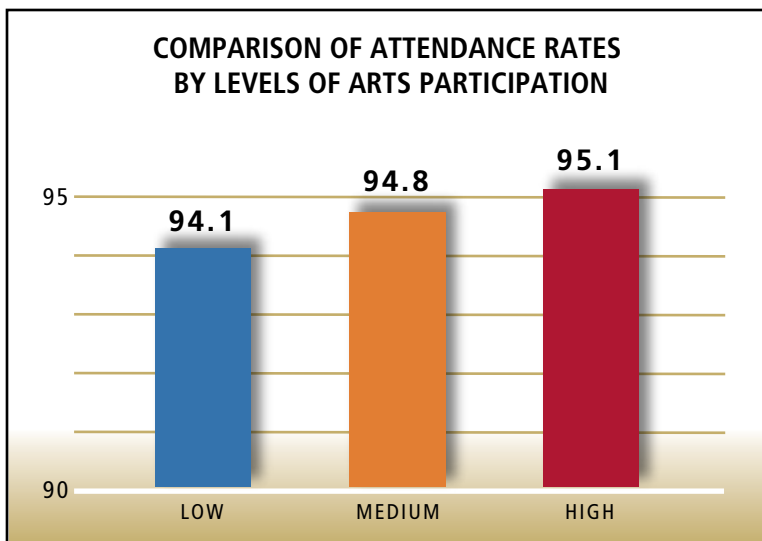
- Multiple measures of student academic performance were available in the DESE dataset, including:
 - The percentages of students performing at the **"advanced" or "proficient levels" on the Missouri Assessment Program (MAP) in communication arts and mathematics** for students at the grade levels tested (grades 3 through 5, 6 through 8, and 11);
 - Average **MAP scale scores in Communication Arts and Mathematics** for students at the same grade levels; and
 - Average scores on the **TerraNova standardized achievement tests**, used across the U.S., also in the areas of Communications Arts and Math, for students in grades 3 through 5, 6 through 8, and 11.
 - **The student graduation rate**, which is an indicator of both student academic achievement (i.e., only students with passing grades can graduate) and student behavior (in that students continue to attend school through twelfth grade).

STUDY RESULTS: Relationships between Participation in Fine Arts Education and Attendance and Student Behavior

Analyses found consistently promising results regarding the relationship between student participation in fine arts education and positive student behaviors at the district level. Specifically:

Across Missouri schools, those districts with higher levels of student enrollment in arts classes had higher attendance rates than districts with lower levels of student participation in the arts⁹.

As shown in the graph below, districts with lower levels of arts participation (the lowest third, equaling 171 districts) reported an average attendance rate of 94.1. Districts with higher levels of participation (the top one-third) reported an average rate of 95.1. Although the difference appears to be small, daily attendance rates are part of the formula for determining state funding for individual districts, with lower attendance rates resulting in lower funding levels.



⁹ According to results of ANOVA and post-hoc tests.

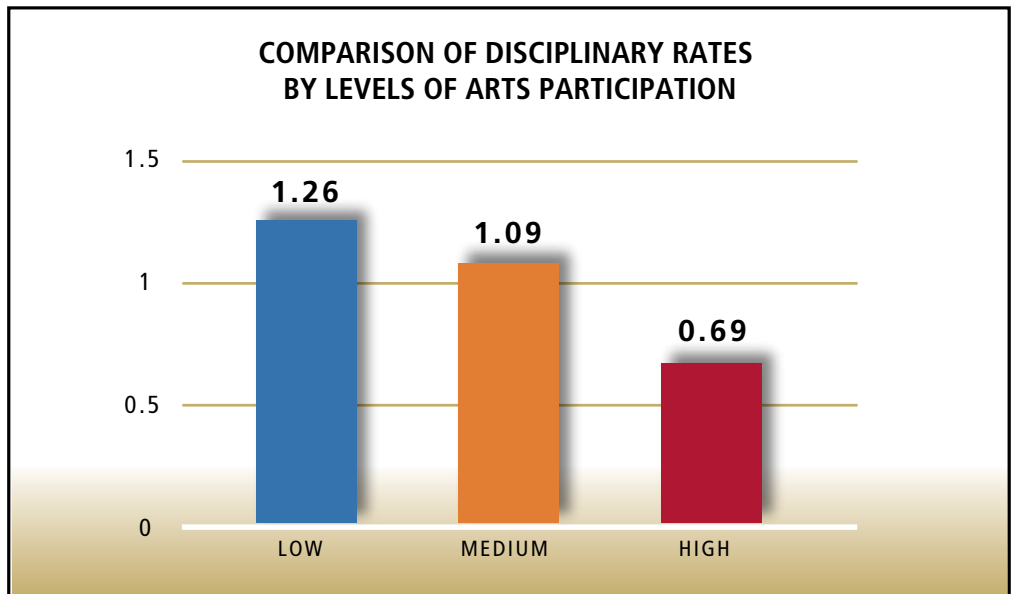
**STUDY RESULTS:
Relationships between Participation in Fine Arts Education
and Attendance and Student Behaviors**

In Missouri public schools, districts with higher levels of student participation in arts education reported lower student discipline rates.

According to correlational analysis, the higher the level of arts participation, the lower the rate of student behaviors requiring disciplinary actions. This relationship was especially true for specific categories of negative student behavior, including acts of violence and other infractions that required out-of-school suspensions and suspensions of more than 10 days. That is, the higher the level of student enrollment in arts classes, the lower the district's rate of

violent incidents and the lower the rate of out-of-school suspensions and suspensions lasting more than 10 days.

As shown in the graph below, districts with lower levels of student participation in fine arts courses reported an average of 1.26 infractions per 100 students compared to an average of .69 incidents for districts with high enrollment in the arts¹⁰.



¹⁰ Differences among the three groups are significant according to ANOVA and post-hoc testing.

STUDY RESULTS:
Relationships between Participation in Fine Arts Education and Student Academic Performance

Across Missouri districts, student participation in arts education is significantly related to multiple measures of student proficiency in Mathematics, with higher participation equaling higher Math scores.

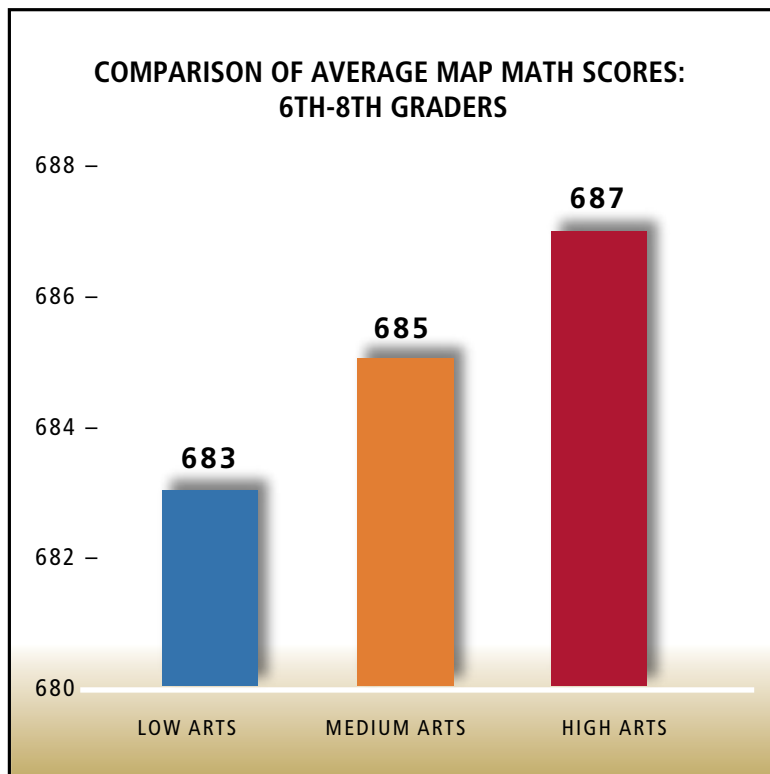
According to correlational analysis, districts with higher levels of student enrollment in the arts showed better performance on Math tests than districts with lower levels of student arts participation. This relationship is true for the following indicators:

■ **The percentage of students in grades 6 through 8 who scored at the “proficient” or “advanced” levels of the MAP assessment in Math in 2007:** The higher the number of students enrolled in arts classes in the district, the higher the percentage of students in these grades who scored at the “proficient” or “advanced” levels in Math.

■ **The average scale score on the MAP Math assessment for students in grades 3 through 5, 6 through 8, and grade 10:** The higher the level of student enrollment in arts classes in the district, the higher the average MAP scale score in Math.

■ **The average score in Math on the TerraNova assessment for students in grades 6 through 8 and grade 10:** The higher student participation in the arts, the higher the average Math score.

As an illustration of the relationship between arts participation and math proficiency, the graph below shows a comparison of the average MAP Math scores for 6th through 8th graders¹¹. Districts with low levels of student arts participation showed an average MAP score in Math of 683, compared to a score of 687 for students in districts with high enrollment in fine arts classes.



¹¹ Scores differ significantly from one another according to ANOVA and post-hoc testing.

STUDY RESULTS:
**Relationships between Participation in Fine Arts Education
and Student Academic Performance**

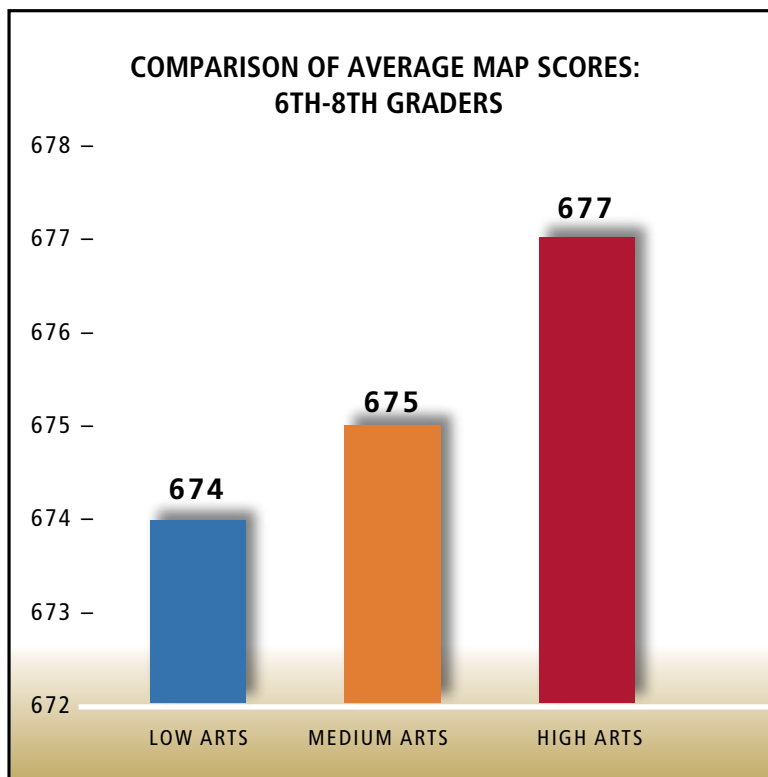
In Missouri schools, student participation in the fine arts is significantly related to student test scores in Communication Arts, with higher participation equaling higher scores.

This is true for the following:

■ **The percentage of students in grades 6 through 8 who scored at the “proficient” or “advanced” levels on the MAP assessment in Communication Arts:** The higher the number of students enrolled in arts classes in the district, the higher the percentage of 6th through 8th graders who scored at these levels in Communication Arts.

■ **The average scale score on the MAP assessment in Communication Arts, also for students in grades 6 through 8:** The higher the level of student participation in arts, the higher the mean MAP score in Communication Arts.

■ **The average Communication Arts score on the TerraNova assessment for 6th through 8th graders:** the higher the student enrolled in arts classes, the higher the median Communication Arts score.

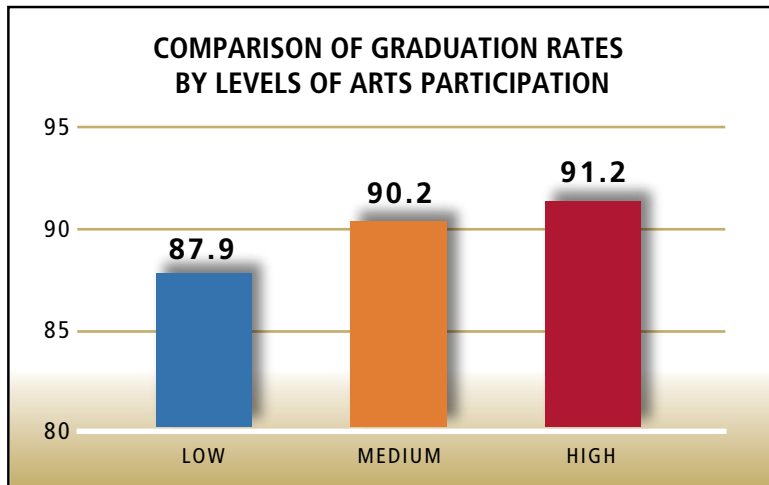


The graph at right illustrates the relationship between arts participation and performance in Communication Arts. Districts with lower levels of student arts participation showed an average MAP score in Communication Arts of 674, compared to a score of 677 for students in districts with high enrollment in fine arts classes.

STUDY RESULTS:
Relationships between Participation in Fine Arts Education and Student Academic Performance

Across Missouri districts, student participation in arts education is significantly related to high school graduation rates.

Missouri school districts with higher levels of student participation in the arts also reported higher graduation rates¹². As shown in the graph at left, districts with lower levels of arts participation reported an average graduation rate of 87.9%, compared to an average rate of 91.2 for districts with higher participation in arts education¹³.



STUDY RESULTS:
Relationships between Arts Education and Academic Indicators When Controlling for Student Demographic Characteristics

It is well-known in the educational research literature¹⁴ that student academic outcomes, including those that are a part of this study, are strongly related to student/family socioeconomic characteristics. Strongest predictors? by student/family socioeconomic characteristics. Two of the most consistent indicators of student academic performance across the US include family income and student

racial/ethnic background. Specifically, research has shown that children from low-income backgrounds are more likely to face academic failure than their counterparts from higher-income families. Additionally, African American and Hispanic students show persistent achievement gaps with children from White/Caucasian and Asian backgrounds¹⁵. In fact, an original goal of No Child Left Behind

¹² According to Pearson Product-Moment correlations.

¹³ Differences are significant according to ANOVA and post-hoc tests.

¹⁴ See, for example, information available through Harvard University's Achievement Gap Initiative at <http://www.agi.harvard.edu/projects/thegap.php>.

¹⁵ "Compared to Whites, significant gaps for African American and Hispanic students are evident in virtually every measure of achievement: NAEP [National Assessment of Educational Process] math and reading test scores, high school completion rates, college enrollment and college completion rates" (from Harvard University's Achievement Gap Initiative website, <http://www.agi.harvard.edu/projects/thegap.php>). Educators and scholars posit a number of reasons for this gap in academic performance, including the effects of racial stereotyping, differences in home and neighborhood environments, the impacts of academic tracking, and effects of standardized testing. See Harold Berlak's 2001 review of studies on the achievement gap on Rethinking Schools Online at www.rethinkingschools.org/archive/15_04/Race154.shtml.

“The findings of this study apply to children in public schools across the state, regardless of student poverty levels and racial/ethnic status.”

legislation was to increase accountability of American public schools in narrowing the achievement gap between African American and Hispanic students, on the one hand, and White/Caucasian students on the other.

Critics of early studies of the relationships between arts education and educational outcomes noted that higher academic achievement among students who participated in the arts was most likely due to socioeconomic factors, that students who showed more participation in the arts were more likely to be from higher income, more highly educated households. In response to this charge, researchers began conducting studies that specifically addressed outcomes among students at greater educational risk, both by virtue of their low-income and racial/ethnic status. Many of the resulting studies found that, not only did children from these backgrounds appear to gain as much as their peers when studying the arts, but that the benefits for low-income and African American and Hispanic students were often greater than those for their peers (see, for example, a number of the studies included in the Critical Links compendium [Deasy, 2002] as well as the recently released report from the Florida Alliance for Arts Education [Kelly, 2009]).

This study addressed the impact of socioeconomic factors, or children’s educational risk status, and the link between arts education and positive academic indicators, by

controlling for these factors in additional analyses. Specifically, statistical¹⁶ models were created that, once again, examined the relationship between student arts participation and behavioral and achievement outcomes at the district level while removing the influence of low-income and minority status.

As a measure of the level of poverty among students in Missouri public school districts, the percentage of students who qualified for free or reduced-price school lunches was used¹⁷. Students who fit this category typically come from families who are living at or near the federal poverty level.

This study found that, when controlling for district poverty level, the relationships between arts participation and indicators of positive academic behaviors and performance were still significant, particularly for the following:

- Disciplinary rates;
- High school graduation rates;
- Standardized test scores in Math; and
- Standardized test scores in Communication Arts.

Thus, the findings of this study apply to children in public schools across the state, including in districts with high levels of poverty.

Another set of analyses was conducted using the percentage of African American and Hispanic as the measure of district racial/ethnic composition. **Again, the study**

¹⁶ Multiple regression

¹⁷ Please note that this is an accepted, though imperfect, measure of household poverty in Missouri districts. Anecdotal evidence suggests that schools in Missouri have found that many families that appear to live in poverty do not apply for the free/reduced-price lunch status due to concerns about privacy and their children being stigmatized by being a part of the program.

found that the link between arts education and positive academic indicators was still significant when controlling for the percentage of minority students in the districts. This was true for district graduation rates, high school graduation rates, and standardized test scores, although the relationship between arts participation and some measures of test performance were weakened, particularly in Math¹⁸.

Nonetheless, this study still provides evidence of a positive relationship between arts education and academic indicators in Missouri districts, regardless of the percentage of students in racial/ethnic groups that are typically at higher risk of educational failure.



¹⁸ Relationships were still significant for two of the six measures of performance on standardized Math tests. These measures are the percentage of 6th through 8th graders achieving Adequately Yearly Progress and the median score on the TerraNova for the same age group. Relationships with two other measures approach statistical significance (with p values of .08 and .09): the average MAP scale score for 6th through 8th graders and the average scale score for 10th graders.

Conclusion and Recommendations

When well taught, the arts provide young people with authentic learning experiences that engage their minds, hearts, and bodies... While learning in other disciplines may often focus on development of a single skill or talent, the arts regularly engage multiple skills and abilities. Engagement in the arts – whether the visual arts, dance, music, theater or other disciplines – nurtures the development of cognitive, social, and personal competencies.

*-- Champions of Change,
p. ix*



At no other time in US history has the educational progress of our students been so thoroughly examined, tested, and debated. Policymakers and educational leaders make decisions about academic proficiency and how best to support it based on what they believe to be in the best interest of our society. The movement toward educational standards and accountability through testing was made with this interest in mind. And while the arts have been given some degree of consideration in this approach to educational reform (through the institution of standards in multiple artistic disciplines at the national and state levels), the struggle for public schools to reach “Adequate Yearly Progress” in the face of ever-shrinking resources, has meant that arts education has been given short shrift in many US schools.

Students in the State of Missouri are fortunate to benefit from continued opportuni-

ties for arts education, particularly at the elementary level in the areas of visual art and music. As other educational researchers have noted, the arts are a necessary part of the education of the whole child, giving students opportunities to learn and express themselves in ways in which other areas of the curriculum are lacking. The provision of arts education in and of itself is beneficial to our children, but a growing body of research – including the present study – suggests that the impact of the arts includes strengthening student learning in other academic areas, including the much-tested areas of Communication Arts and Mathematics. The arts also appear to make contributions to the overall educational environment, as evidenced by the relationship of arts education to attendance rates and disciplinary rates.

Do we know that this relationship (between arts education and academic

achievement in Math, Communication Arts and other academic areas and attendance, graduation and disciplinary rates) is causal? No. But the preponderance of evidence, not only from within the US but from countries around the globe, is undeniably proof that there IS a relationship between the arts and student learning. Thus far, we may not understand the mechanisms by which the influence occurs, and we may lack large-scale, randomized, and controlled studies that lead to more definitive proof concerning causation; but we know from the research, and from the countless stories of the arts impacting the lives of individual children, teens, and adults, that arts education really does make a difference.

In the present study, student participation in fine arts courses is clearly associated with a number of positive educational outcomes in Missouri schools, including disciplinary, attendance, and graduation rates, as well as standardized test scores in Math and Communication Arts. The positive relationship between fine arts participation and student indicators is true for districts across the socioeconomic spectrum, including those with high percentages of students at educational risk. The study findings apply to districts with high percentages of children in poverty as well as to those with high percentages of minority students.

As previously mentioned, study results do not prove that participation in fine arts courses causes higher academic achievement. But because of consistent associations with better student outcomes, study results strongly suggest that arts education in Missouri schools should be increased or, at the very least, maintained. There is no evidence that fine arts courses or instructional time

in the arts should be cut as districts work for higher academic achievement in the tested areas of Communication Arts, Mathematics, and Science. Thus, this study supports the following recommendations:

Maintain or expand levels of fine arts education in Missouri schools, including in schools with high percentages of poor and minority students. In the face of funding shortfalls and economic stress, schools/districts may be tempted to reduce their investment in anything that appears to be “extra” or unnecessary; but as previously mentioned, the arts play an important role in supporting student learning beyond the boundaries of the fine arts classroom. In line with maintaining or expanding arts education, assure that students have equal access to courses in various arts disciplines, regardless of their socioeconomic backgrounds.



Recognize fine arts classes as core aspects of the academic curriculum rather than as merely “add-ons” or “feel-good” electives. Findings suggest that the requirement for Missouri students at the middle school or junior high level to study the fine arts should be restored¹⁹. Results from this research also suggest that districts

¹⁹ At one time, Missouri middle school students were required to take courses in the fine arts but the requirement was dropped prior to 2002.

should not reduce instructional time for the arts. In order to support quality instruction, arts teachers should be afforded the same opportunities for professional development as teachers in other “core” areas of the curriculum. For example, the addition of fine arts consultants at each of the state’s Regional Professional Development Centers (RPDCs) would help to ensure that this professional development is happening. In addition, if the fine arts are to be accepted as integral parts of the academic curriculum, students should be assessed using arts-appropriate methods to demonstrate learning on an ongoing basis²⁰.

Assure that funding for arts education in Missouri schools is maintained or expanded in order to maintain or increase student opportunities and quality instruction across the state. The maintenance of funding in uncertain economic times will be necessary to continue to see the positive relationships between arts education and student learning as identified by the present study.

Expand course offerings in Dance and Theater. Currently, Theater courses are available in less than half of Missouri public school districts, and Dance courses are available in only 1 percent. Because courses in these areas can have unique impacts upon student learning, beyond the benefits typically associated with visual arts and music, opportunities for Missouri students to participate in dance and theater should be increased.

Support further research at the school and student levels to help develop a more comprehensive picture of the state of fine arts education in Missouri.

This research could help accomplish the following: 1) chart the changes in the availability of arts education in the state over time; 2) provide more specific information on the degree to which the arts should be taught or required in Missouri schools (addressing questions about the optimal level of instruction for students at the elementary, middle and high school levels in order to support specific outcomes); 3) answer questions about the quality of instruction across various arts disciplines and at different grade levels; 4) provide an understanding of how arts education is funded in Missouri schools; and 5) provide information about the role played by arts organizations and afterschool programs in providing arts education and supporting student outcomes. The knowledge produced by further studies could be used not only to advocate for arts education in the state but also to help individual schools and districts develop plans for maintaining or increasing quality fine arts instruction for all students.

Convene policymakers, educational leaders, other community leaders, representatives of public and private funding sectors, administrators, teachers, parents and students across the state to raise awareness of the importance of fine arts education and advocacy. Share the results of this report to: 1) generate discussion about its implications, and 2) develop action steps to assure that arts education continues to make a difference for students across Missouri.

²⁰ DESE developed a Fine Arts component for the Missouri Assessment Program (MAP) in the late 1990s and implemented it as a voluntary assessment in 2000. The required implementation was delayed in 2001 and plans for administration of the test have not been re-established.

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ABOUT THE MISSOURI ARTS COUNCIL:

The Missouri Arts Council, a state agency, provides approximately \$8 million to nonprofit organizations through grants that encourage and stimulate the growth, development, and appreciation of the arts in Missouri. MAC provides funding to make quality arts programming possible in both large and small communities. Also, MAC staff are available to provide assistance in arts and nonprofit management. Their expertise includes community development, fundraising, marketing, grantwriting, arts education, artistic disciplines (visual arts, music, literature, theater, festivals and film/media) and more. MAC's mission is to act as a public leader, partner and catalyst in broadening the appreciation and availability of the arts in the state and fostering the diversity, vitality and excellent of Missouri's communities, economy and cultural heritage.



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