

**Do The Arts Matter? A Review of the Links Between Student  
Involvement in the Arts and Academic Success in School**

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**HAWAI'I EDUCATIONAL POLICY CENTER**



The Hawai'i Educational Policy Center is pleased to offer ***Do The Arts Matter? A Review of the Links Between Student Involvement in the Arts and Academic Success in School.*** This Policy Report is designed to assist policy makers, educators, and the general public in understanding what credible research is telling us about the value of visual and performing arts education for overall improvement of student academic achievement.



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## Introduction

*Availability of arts classes is a characteristic of high-performing schools.*  
- Critical Links

In recent years much lip service (both nationally and in Hawai'i) has been given in support of the fine arts education as an integral part of the public education system. However, if we look beyond the rhetoric, we see a system here in Hawai'i that has not yet embraced the arts, nor seen them as particularly helpful in accomplishing the primary mission of educating youth in our society.

In 1997, The National Center for Education Statistics (NCES) released *The NAEP 1997 Arts Report Card: Eight Grade Findings from the National Assessment of Educational Progress*. NAEP, also known as "the Nation's Report Card," is the only nationally representative and continuing assessment of what America's students know and can do in various subject areas. The following statements linking art education to student achievement were included in the *1997 Arts Report Card*:

According to a study performed at the University of California at Irvine, early education in classical keyboard increased students' aptitude for math and science. College Board data indicate that students who have engaged in sequential arts programs perform significantly better on both the verbal and math components of the SAT than peers who have not (Perksy, Sandine, & Askew, 1997, p. 2).

In October 1999, the Arts Education Partnership and the President's Committee on The Arts and the Humanities released *Champions of Change: The Impact of the Arts on Learning*. The authors included leading educators and researchers in America working in seven teams of researchers using diverse methodologies. Its findings, summarized in the Executive Summary (Fiske, 1999, pp. viii-xii), included the following:

- Students with high levels of arts participation outperform arts-poor students on virtually every measure.
- The arts have a measurable impact on students in high-poverty and urban settings.
- The arts in after-school programs guide disadvantaged youth toward positive behaviors and goals.
- Learning through the arts has significant effects on learning in other domains.
- Arts experiences enhance "critical thinking" abilities and outcomes.
- The arts enable educators to reach students in effective ways.

In addition, Catterall, Chapleau, & Iwanaga (1999, p. 7) found that for all students who persisted with "high involvement" in the arts, those in eighth grade had a 36% advantage on standardized tests, those in tenth grade a 38% advantage, and those in twelfth grade had a 46% advantage. These data suggested that the positive effect of arts education on standardized testing in other subjects increased over time.

In 2002 the Arts Education Partnership released *Critical Links: Learning in the Arts and Student Academic and Social Development*. Highly respected educational researchers examined 62 individual studies focusing on the impact of the arts on student success in school. Each study is summarized in terms of its methods, results, and contributions to the field, and includes a commentary by an independent reviewer. The resulting document reviews a large body of research over years and decades. It is not anecdotal, nor is it an essay by passionate advocates. Overall, the results of these studies reaffirmed the findings of *Champions of Change*.

In spite of these credible findings, fine arts education in Hawai‘i remains compartmentalized, regarded as an enrichment or luxury element in a curriculum increasingly focused on core subjects such as reading, math, and science. Statewide testing in compliance with the No Child Left Behind Act has not included testing for the arts. Yearly annual progress for each school, and each sub group within each school, completely ignores the student who is selected to be Concertmaster for Hawai‘i’s Youth Symphony, or a team of students whose video production is selected for commercial use. In the world of accountability and scholastic achievement, artistic excellence is not “progress.”

In 1999, the Hawai‘i state Board of Education approved the Fine Arts Content and Performance Standards as one of the ten core subject standards. Yet in 2003, there are virtually no specialists in dance, drama, or the visual arts in public elementary schools. A 2002 Hawai‘i legislative appropriation for 12 state-level arts resource teachers was never released. It is left to each school to decide whether their interests and resources will be applied to creating a fine arts component in the curriculum. Most students don’t receive a sequential arts curriculum. Band, orchestra and choir programs are sporadically distributed throughout the system and highly dependent on parental or community fundraising. Hawai‘i department of education specialists estimate that each secondary school might engage up to 300 students in the arts. With a high school “average” enrollment of about 1,400, this would mean that only 20% of secondary students in Hawai‘i benefit from arts programs.

The purpose of this report is to highlight some of the more interesting and compelling research on arts education. The focus is on two major reports: *Champions of Change* and *Critical Links*. Together, these provide enough initial information to stimulate more interest in the value of arts education in today’s world of high stakes accountability and annual yearly progress for all students.

## Champions of Change: the Impact of the Arts on Learning

*Students with high levels of arts participation outperform “arts-poor” students by virtually every measure.*

*-Executive Summary, Champions of Change*

The executive summary of this very readable 1999 report notes, “Although the *Champions of Change* researchers conducted their investigations and presented their findings independently, a remarkable consensus existed among their findings:

- The arts reach students who are not otherwise being reached.
- The arts reach students in ways that they are not otherwise being reached.
- The arts connect students to themselves and each other.
- The arts transform the environment for learning.
- The arts provide learning opportunities for the adults in the lives of young people.
- The arts provide new challenges for those students already successful.
- The arts connect learning experiences to the world of real work.”

(Fiske, 1999, pp viii-xii)

Consider the following table, which shows some key differences between students with varying levels of involvement in the arts.

Grade and Category of Assessment	All Students		Low SES Students	
	High Arts	Low Arts	High Arts	Low Arts
<b>Grade 8 Academic Performance</b>				
Earning mostly A’s and B’s in English	79.2%	64.2%	64.5%	56.4%
Scoring in top 2 quartiles on std. Tests	66.8%	42.7%	29.5%	24.5%
Dropping out by grade 10	1.4%	4.8%	6.5%	9.4%
Bored in school half or most of the time	42.2%	48.9%	41.0%	46.0%
<b>Grade 10 Academic Performance</b>				
Scoring top 2 quartiles, Gr. 10 Std Test Composite	72.5%	45.0%	41.4%	24.9%
Scoring in top 2 quartiles in Reading	70.9%	45.1%	43.8%	28.4%
Scoring in top 2 quartiles in History, Citizenship, Geography	70.9%	46.3%	41.6%	28.6%
<b>Grade 10 Attitudes and Behaviors</b>				
Consider community service important or very important	46.6%	33.9%	49.2%	40.7%
Television watching, weekdays percentage watching 1 hour or less	28.2%	15.1%	16.4%	13.3%
Percentage watching 3 hours or more	20.6%	34.9%	33.6%	42.0%

(Chatterall et al., 1999, p. 3)

Of particular interest in the age of NCLB requirements were the differences in scores on standardized tests and reading scores. For all eighth graders, there was a twenty seven-point spread between high-arts and low-arts students scoring in the top 2 quartiles on standardized tests, and a five point spread for lower social economic students (SES). For tenth graders, the study reported a twenty five-point spread among all students scoring in the top 2 quartiles in reading, and a fifteen point-spread among SES students.

The study noted that the relative advantage of involvement in the arts increased over time. Authors calculated a “comparative advantage” in eighth grade of 36%, while tenth graders had a 38% advantage, and twelfth grades a 46% advantage.

For instrumental music there was a very strong relationship between the highest math proficiency in grade twelve and involvement with band or orchestra. (For all students, the probability of scoring at the highest math proficiency levels was 20.6 %.)

- For High SES, and High Music students there was a 46% probability of achieving the highest math proficiency.
- For High SES, but No music students the probability was 38.6%.

Thus, for the high SES group, the report found a difference of about 8 percent. For the lower SES students, the difference was more dramatic: 33.1 vs. 15.5:

- For Low SES, and High Music there was a 33.1% probability of scoring at the highest math level.
- For low SES, and No music there was a 15.5% probability of scoring at the highest math level.

Results for High Drama/Theater vs. No Drama/Theater students were less pronounced (about a 7 point difference for eight, tenth and twelfth graders), but consistently favoring students involved with drama (Catterall et al., 1999, p. 11).

In a separate study, Heath & Roach (1999) found that “young people who learn the rigors of planning and production in the arts will be valuable employees in the idea-driven workplace of the future. Furthermore, young people who have worked in the arts know how to strive for excellence and challenge themselves ... to improve...[They] know how to create and perform, perceive and analyze, and understand cultural and historical concepts through an approach that integrates individual parts to a larger whole.”

## Critical Links: Learning in the Arts and Student Academic and Social Development

*Students who take art classes have higher math, verbal, and composite SAT scores than students who take no arts classes.*                      –Critical Links

*Critical Links* (Deasy, 2002) is a compendium that examines 62 individual studies, and evaluates their methodology, their stated results, and their overall contribution to the understanding of this issue. Some of the evaluations are filled with praise; others are more critical and view the data presented with skepticism.

In the essay Promising Signs of Positive Effects: Lessons from the Multi-Arts Studies, authors Rob Horowitz and Jaci Webb-Dempsey ask some of the right questions, including

- what is the nature of the arts learning experience, and if we can sufficiently understand it, how are we to capture or measure it?
- are the learning disciplines of art, music, dance, and drama similar enough to each other to merit being group together as “arts education,” or are we better off dissecting each discipline separately?
- what kinds of outcomes should we expect as a result of arts learning? (p. 98)

They note “the positive cognitive, personal, and social outcomes emerging from this collected research represent capacities central to the goals society typically articulates for public education,” (p. 99) and that “there are positive findings collected here with implications for curriculum, professional development, partnership, and learning. Administrators and policy-makers can be secure in supporting strong arts programs, based upon the evidence presented here” (p. 100).

Overall, *Critical Links* is an important contribution to what we know, and helps define what we need to study further. Taken as a whole, the studies reviewed in *Critical Links* demonstrate through objective analysis that links do exist between art education and other realms of student achievement.

Kathryn Vaughn and Ellen Winner’s study “SAT Scores of Students Who Study the Arts: What We Can and Cannot Conclude about the Association,” as summarized in *Critical Links* (p. 96) presents the following conclusions:

- Students who take arts classes have higher math, verbal, and composite SAT scores than students who take no arts classes.
- SAT scores increase linearly with the addition of more years of arts classes, that is, the more years of arts classes, the higher the SAT scores.
- The strongest relationship with SAT scores was found with students who take four or more years of arts classes.
- Effect sizes for math scores are consistently smaller than those for verbal scores.



- Acting classes had the strongest correlation with verbal SAT scores. Acting classes and music history, theory, or appreciation had the strongest relationship with math SAT scores. However, all classification of arts classes were found to have significant relationships with both verbal and math SAT scores.

The *Critical Links* commentary on their study notes, “Although the authors repeatedly urge caution when making causal claims for the arts, the consistent positive correlations across all the students cannot easily be ignored...Availability of arts classes is a characteristic of high-performing schools” (p. 96).

Ron Butzlaff looked at twenty-four studies for evidence of a link between music and reading. In “Can Music Be Used to Teach Reading?” Butzlaff found that his meta-analysis “demonstrated a strong and reliable association between music instruction and standardized measures of reading ability” (p. 106).

Analyses of these studies was thoughtful and probing. Commentary on the Butzlaff study speculated on four ways in which learning music and learning language could be related: (1) music and written language employ highly differentiated symbol systems yet both involve analogous decoding and comprehension reading processes; (2) Music and language reading skills share parallel concepts, such as sensitivity to tonal distinctions; (3) reading music involves the simultaneous incorporation (and reading) of written text with music; and (4) learning in the context of a highly motivated social context such as music ensembles may lead to ‘heightened academic responsibility and performance’ that may enhance reading achievement (p. 107).

Karen G. Dejarnett’s study “The Arts, Language, and Knowing: An Experimental Study of the Potential of the Visual Arts for Assessing Academic Learning by Language Minority Students,” asks “can sixth-grade students’ understanding of history be assessed through a combination of writing and drawing, and does this kind of assessment reveal more history knowledge than assessments that ask only for writing?” The reviewer concluded, “This study suggests that students reveal more history knowledge when their knowledge is assessed through a combination of writing plus drawing than when it is assessed through writing alone. This finding held not only for student with limited English skills but for typical students as well. This study shows us that drawing may be one way to reveal what students know, but cannot put into words.” However, there were some questions about the numerical rating system used to create these measurements and evaluations (p. 141).

This last comment raises a persistent issue for evaluation of the impact of the arts: how can we evaluate the artistic components of the education? This difficulty may be one of the reasons why artistic (and inherently more subjective) assessments have less of an impact on policy makers. As one analyst put it, “Researchers need to find ways of counting as appropriate evidence more of the qualitative experience of the arts”(p. 149).

These studies force all of us to ask the question: What is going on? Why do researchers find these links? James S. Catterall (2002) suggested that there was a transfer of learning

from both brain functions and motivations associated with the arts and other activities. This is what cognitive psychologists think about. He notes, “At the level of neuro-function, learning experiences unequivocally impact future learning experiences.” (p. 151)

In an effort to catalogue these suspected transfers Caterall (2002, pp. 152-3) identified the following core relationships:

**Dance.** Studies suggest relationships between traditional dance and self confidence, persistence, reading skills, nonverbal reasoning, expressive skills, and creativity in poetry, social tolerance, and appreciation of individual/group social development.

**Drawing and Art Instruction.** The visual arts are thought to be associated with content and organization of writing; sophisticated reading skills and interpretation of texts; reasoning about scientific images; and reading readiness.

**Drama.** Classroom drama may be linked to oral and written story comprehension; character identification and motivation; increased peer interaction; writing proficiency and prolixity; conflict resolution skills; concentrated thought; understanding social relationships; ability to understand complex issues and emotions; skill with subsequently read, unrelated texts; problem-solving disposition and strategies; and general self concepts.

**Multi-Arts.** Multi-arts programs that integrate the arts with academics suggest links to reading, verbal and math skills; creative thinking; achievement motivation; cognitive engagement; instructional practice in the school; professional culture at the school; school climate; and community engagement and identity.

## **Policy Issues and Challenges**

In the executive summary of the 1997 *NAEP Arts Education Assessment Report Card* (Persky, Sandene, & Askew, 1997), authors noted that the central principle was that dance, music, theatre and visual arts are “crucial components of a complete education. The arts have a unique capacity to integrate intellect, emotions, and physical skills in creating of meaning” (p. 1).

Whether a direct cause and effect relationship between just the arts component of the school and test scores will ever be documented, it is worth noting that the Educational Laboratory School (ELS), a charter school that serves as a laboratory for curriculum developed at the University of Hawai'i, led all public schools in recent test scores for 8<sup>th</sup> and 10<sup>th</sup> graders. All students at ELS, K–12, have arts education every year. From 6<sup>th</sup> grade through 12<sup>th</sup> grade, all ELS students *also* participate in a music program of choir, orchestra, or band. Consistent with the findings of *Champions of Change* and *Critical Links*, ELS student scores improved the longer they were exposed to this integrated arts approach.

Despite this evidence that would argue for the inclusion of integrated arts programs in many of Hawai‘i’s schools, systemic issues, include the following, inhibit such efforts:

- Education policy makers and administrators are generally unfamiliar with the research linking fine arts to general student academic success in other subjects.
- Education policy makers and administrators are generally unfamiliar with research linking fine arts education to greater success for disadvantaged students, such as lower income, limited English ability, or special education students, as well as troubled or alienated youth. Research indicates these are the students likely to benefit the most from the fine arts.
- Education policy makers and administrators are generally unaware of the use of fine arts by many of Hawai‘i’s successful independent schools, public charter schools, and higher achieving regular public schools.
- Education policy makers and administrators generally regard the arts as an enrichment that would be nice to include but which we can ill afford at this time (similar to health education and physical education).
- Employers generally are unfamiliar with studies that show young people who have worked in the arts are better prepared for the workforce.
- Support for expansion of fine arts education in Hawai‘i seldom comes from outside the arts community. The Department of Education often must rely on the State Foundation on Cultural and the Arts, the Hawai‘i Alliance for Arts Education, and other organizations to “carry the ball” for arts advocacy. In fact, in 1999 the Hawai‘i state Legislature formally designed the State Foundation of Culture and the Arts as the lead agency for arts education, *not* the Hawai‘i Department of Education!
- In the middle and high school grades, Hawai‘i’s education policy makers continue to insist on a student’s school day that is not yet long enough to accommodate the traditional core academic subjects and the fine arts. Students are often dismissed from campus at 2:30 p.m. and an hour earlier on Wednesdays.
- A recent Hawai‘i Board of Education decision to add an additional year of science to middle and intermediate schools was initiated and approved without first assessing the impact on fine arts, particularly the music programs, which typically begin at this level. These are still regarded as electives that may be wedged into the school day, but certainly not required.
- The task of fulfilling the No Child Left Behind requirements of highly qualified teachers in specific higher profile subjects places the hiring of fine arts specialists low in the priorities for funding.

- Integration of the fine arts into elementary schools will require specific training of many teachers in order to ensure the fine arts are part of each student’s overall education.
- Hawai‘i’s Department of Education has only one high level fine arts specialist to provide information to the DOE and policy makers. (Some ten years ago each of the seven administrative district offices had a fine arts specialist.) HEPC was unable to find any data base that included specific numbers of schools, teachers and students engaged in the fine arts in any given semester or for any sustained length of time.
- In the debate over decentralization, school-based budget control, and per-pupil funding, the notion that all students in all districts or all schools deserve the fine arts is likely to give way to localized priorities.

Given these challenges, it is not surprising that a more aggressive arts education initiative has yet to take hold in Hawai‘i’s public schools. It will take time and funding. As long as it is perceived as yet another “add-on,” there is little evidence that the arts will become an integral part of the educational experience. However, if educational policy makers and administrators come to understand that an investment in systemic arts education will pay off for overall student achievement, there is a chance that the compelling data summarized in this report will begin to have an impact.

## Sources

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## Useful Links

- American Education Research Association (AERA): <http://www.aera.net/index.html>
- Arts Education Policy Database <http://www.aep-arts.org/policysearch/searchengine/>
- Education Commission of the States: [www.ecs.org](http://www.ecs.org)
- Education Week: <http://www.edweek.org/>
- Hawai'i State Board of Education: <http://lilinode.k12.hi.us/STATE/BOE/HomePage.nsf?OpenDatabase>
- Hawai'i State Department of Education: <http://doe.k12.hi.us/>
- National Center for Educational Statistics: <http://nces.ed.gov/>
- National Conference of State Legislatures: <http://www.ncsl.org/>
- National Governor's Association: <http://www.nga.org/>
- The Council of Chief State School Officers: <http://www.ccsso.org/>

The National Assessment of Educational Progress: What is NAEP?  
<http://nces.ed.gov/nationsreportcard/about/>

Stateline.org: News from the States: <http://www.stateline.org/>

*Transforming Education Through The Arts Challenge*, The National Arts Education Consortium, Department of Art Education, The Ohio State University, <http://www.aep-arts.org/PDF%20Files/Final%20Report%20TETAC2.pdf>

UCLA's Advanced Policy Institute: <http://api.ucla.edu/>