Wisconsin Art Education Association

Why the 'A' in STEAM is Essential

1. Drives Innovation & Creative Problem Solving

- The arts cultivate divergent thinking and original solution development.
- Innovation in engineering, healthcare, manufacturing, architecture and technology depends on design processes rooted in artistic practice.
- Design thinking frameworks used in industry mirror the artistic cycle: ideate, prototype, critique, refine.

Policy Implication: Districts that prioritize arts integration strengthen innovation capacity across all content areas.

2. Strengthens Critical Thinking & Cognitive Development

- Visual arts improves spatial reasoning, a predictor of achievement in mathematics & engineering fields.
- Artistic critique develops analytical reasoning and evidence-based evaluation.
- Iterative studio processes mirror the scientific method.

Policy Implication: Arts education supports measurable academic growth in STEM disciplines.

3. Increases Engagement, Attendance & Achievement

- Arts-integrated instruction increases student motivation and retention of academic content.
- Access to arts coursework is correlated with improved graduation rates and attendance.
- Arts programs provide multiple entry points for historically underserved student populations.

Policy Implication: Protecting arts access supports district equity, MTSS, and school improvement goals.

4. Develops Communication & Collaboration Skills

- Students learn to visually communicate complex ideas.
- Studio critique models professional feedback systems used in business and engineering.
- Collaborative arts projects build leadership, adaptability, and teamwork.

Policy Implication: Arts instruction directly supports Portrait of a Graduate competencies.

5. Humanizes Technology & Innovation

- The arts integrate ethical reflection, empathy, and community awareness into problem solving.
- STEAM education prepares students to become responsible innovators and civic leaders.

Policy Implication: Arts integration ensures technology development is socially responsive and community-centered.

6. Aligns with Workforce & Economic Development Priorities

Employers consistently rank the following as top workforce competencies:

- Creativity - Complex problem solving - Communication - Adaptability

STEAM education develops both technical proficiency and creative capacity.

Policy Implication: Sustained investment in arts education supports regional economic competitiveness.

LEADERSHIP ACTION STEPS

✔️ MAINTAIN CERTIFIED ARTS EDUCATOR POSITIONS
✔️ ENSURE K–12 SEQUENTIAL ARTS PROGRAMMING
✔️ INTEGRATE ARTS REPRESENTATION IN DISTRICT STRATEGIC PLANNING
✔️ INCLUDE ARTS INDICATORS IN DISTRICT REPORT CARDS AND IMPROVEMENT PLANS
✔️ FUND FACILITIES, MATERIALS, AND TECHNOLOGY TO SUPPORT COMPREHENSIVE ARTS INSTRUCTION

CONCLUSION

THE ARTS ARE NOT AN ENRICHMENT ADD-ON. THEY ARE A RESEARCH-SUPPORTED, WORKFORCE-ALIGNED, EQUITY-DRIVEN COMPONENT OF A COMPREHENSIVE EDUCATION SYSTEM.

ELIMINATING OR MARGINALIZING THE ARTS WEAKENS INNOVATION CAPACITY. STRATEGIC INVESTMENT STRENGTHENS IT.

Steam Arts Research Citation Sheet on Back >>

Citation Sheet: Why the Arts Are Essential in STEAM

This document provides research citations and URLs supporting the policy statements outlined in the Why the ‘A’ in STEAM Is Essential.

1. Arts & Academic Achievement

National Endowment for the Arts. (2012). The Arts and Achievement in At-Risk Youth: Findings from Four Longitudinal Studies.
https://www.arts.gov/sites/default/files/Arts-At-Risk-Youth.pdf
Deasy, R. (Ed.). (2002). Critical Links: Learning in the Arts and Student Academic and Social Development. Arts Education Partnership.
https://www.aep-arts.org/wp-content/uploads/2012/03/CriticalLinks.pdf

2. Arts & Cognitive Development (Including Spatial Reasoning)

National Research Council. (2009). Learning, Arts, and the Brain: The Dana Consortium Report on Arts and Cognition.
https://nap.nationalacademies.org/catalog/12458/learning-arts-and-the-brain-the-dana-consortium-report-on-arts-and-cognition
Winner, E., Goldstein, T., & Vincent-Lancrin, S. (2013). Art for Art’s Sake? The Impact of Arts Education. OECD Publishing.
https://www.oecd.org/education/ceri/arts-education.htm

3. Workforce & Future-Ready Skills

World Economic Forum. (2023). The Future of Jobs Report 2023.
https://www.weforum.org/reports/the-future-of-jobs-report-2023/
Organisation for Economic Co-operation and Development (OECD). (2019). OECD Future of Education and Skills 2030.
https://www.oecd.org/education/2030-project/
Partnership for 21st Century Learning. (Framework Overview).
https://www.battelleforkids.org/networks/p21/frameworks-resources

4. Arts Integration & Student Engagement

Americans for the Arts. (2019). Arts Education Navigator Research.
https://www.americansforthearts.org/by-program/reports-and-data/legislation-policy/naappd/arts-education-navigator

5. Equity & Access to Arts Education

Arts Education Data Project. (National Data Portal).
https://www.artseddata.org
National Endowment for the Arts. (2020). Arts Education in America.
https://www.arts.gov/impact/research/arts-education-in-america

These studies collectively demonstrate correlations between sustained arts instruction and improvements in academic performance, cognitive development, student engagement, workforce readiness, and equitable access to opportunity.

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