

Viz prof's advocacy culminates in NASEM report supporting STEAM



Carol LaFayette

[See the full National Academies Report] (<https://www.nap.edu/catalog/24988/the-integration-of-the-humanities-and-arts-with-sciences-engineering-and-medicine-in-higher-education>).

Whether regenerating the earth, feeding the world, or colonizing space, tomorrow's thought leaders will be better prepared by an initiative integrating science and the arts, concludes a May 2018 landmark [report] (<https://www.nap.edu/catalog/24988/the-integration-of-the-humanities-and-arts-with-sciences-engineering-and-medicine-in-higher-education>) from the [National Academies of Sciences, Engineering, and Medicine] (<https://www.nap.edu/>).

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Championing the critical thinking and creative skills gained at intersections of art and science, the NASEM report validates efforts by Carol LaFayette, director of the Institute for Applied Creativity at Texas A&M University, who led a multi-year National Science Foundation-funded initiative aimed at elevating the role of art and design in STEM fields.

On behalf of the NSF, LaFayette, a professor of visualization, established and led the national network for Sciences, Engineering, Arts & Design (SEAD) (<http://sead.viz.tamu.edu/>), which advocated through research and outreach for the "STEM to STEAM" movement — adding art and design components, the "A," to science, technology, engineering and mathematics (STEM).

The panel of scientists, artists, health care researchers, engineers, and educators who contributed to the NASEM report included two SEAD network members.

ÒAll the dialogue we contributed in STEM to STEAM conferences, workshops and research, combined with others' work, helped catalyze the National Academies study,Ó said LaFayette.

The two-year NASEM study determined STEAM significantly enhances the problem solving skills required of scientists, engineers, technologists and health care providers. It argues that integration of disciplines, rather than increasing fragmentation and specialization of them, is of utmost importance for the U.S. in the future.

ÒWeÕre separating subjects artificially, when together they can be very useful Ñ the arts and sciences can fill in each otherÕs gaps,Ó LaFayette said. "Innovative solutions to complex problems weÕre facing today can be created through transdisciplinary collaboration.Ó

The NASEM study, said LaFayette, marks the first time the STEAM movement has been considered by an organization with the advisory clout of the National Academies, a nonprofit society of distinguished scholars that provides independent, objective analysis and advice to the nation, conducts additional activities to solve complex problems, and informs public policy decisions.

The report, broadly distributed to states and federal agencies that control education and research funding, includes recommendations on how universities, communities and public entities can implement its findings.

Among Texas A&M offerings exemplified in the report as Òbest practicesÓ in STEAM education were all three [Department of Visualization] (<https://viz.arch.tamu.edu/>) degree programs, which balance art and technology with academic rigor, and the [Creative Anatomy Collective] (<http://softinteraction.com/archives/1372>) , an interdisciplinary learning and research initiative overseen by visualization faculty member Hwaryoung Seo.

ÒThe NASEM report will be a common document people can use to influence how art and science will come together in the future,Ó LaFayette said. ÒItÕs up to us to decide how to use it.Ó

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