

Letter from U.S. Congressional STEAM Caucus Cochairs to Chair and Ranking Member of House Committee on Science, Space, and Technology

November 19, 2013

Chairman Lamar Smith
2321 Rayburn House Office Building
Washington, D.C. 20515

Ranking Member Eddie Bernice Johnson
394 Ford House Office Building
Washington, D.C. 20515

Dear Chairman Smith and Ranking Member Johnson:

As members of the bipartisan Congressional STEAM Caucus, we are excited to learn that the Science, Space, and Technology Committee is beginning work on legislation to reauthorize the America COMPETES Act. As this legislation is developed, we ask that you recognize the value of STEAM: the integration of arts and design with STEM teaching, research, funding, and federal activities.

Our ability to innovate is one of America's strongest assets, and has defined us as a country. There is no doubt that technical skills in the STEM fields are critical. But in order to continue the innovative trajectory our country has set, STEM workers need to be creative, entrepreneurial problem solvers. Employers agree, and according to The Conference Board's "Ready to Innovate" report:

"Innovation is crucial to competition, and creativity is integral to innovation. U.S. employers rate creativity/innovation among the top five skills that will increase in importance over the next five years, *and stimulating innovation/creativity and enabling entrepreneurship* is among the top 10 challenges of U.S. CEOs."

The report also found that school superintendents and employers name arts study as one of the top two indicators of creativity. Integrating the arts and design into the STEM disciplines is an effective way of fostering these skills and building on the potential for success in our future workforce.

STEAM is also an important tool to keep young students interested in STEM subjects at school and encourage them to pursue careers in the STEM fields. A separate recent study found that "sustained childhood exposure to and participation in the arts appears linked to college students majoring in science and technology fields, and to later going on to patent inventions." Further, arts exposure has a clear and positive impact on academic achievement generally: a study by the National Endowment for the Arts (NEA) found that low-income students engaged in the arts tend to have higher academic achievement and college enrollment rates.

Integration of the arts and design into STEM is already happening at the federal level. The National Science Foundation (NSF) funds the Science, Engineering, Arts, and Design (SEAD) Network to explore the intersections between disciplines. The NASA Jet Propulsion Laboratory uses artistic renderings in its work and finds new perspectives on projects through collaboration between scientists and its artist-in-residence. Additionally, the NSF has worked with the NEA and National Endowment for the Humanities to leverage research on how the arts and humanities can further develop the fields of science and technology.

STEAM should be recognized as providing value to STEM research and programs across federal agencies through "Sense of Congress" provisions and language clarifying that

current research, data collection, and STEM programs may include arts integration strategies and programs. Additionally, we ask that, where appropriate, data collection, surveys, and reporting on STEM activities and grant making in the federal government specifically look at arts integration activities. Finally, current interdisciplinary and inter-agency programs should be strengthened and language added to clarify that arts integration is an avenue for doing so.

We respectfully submit that all innovative, proven strategies to improve STEM, including STEAM, should be included during reauthorization of the America COMPETES Act. We appreciate your consideration and work on this issue.

Sincerely,
Congresswoman Suzanne Bonamici
Congressman Aaron Schock