


 The logo for Edutopia, featuring the word "edutopia" in a white, lowercase, serif font inside a rounded orange rectangle.

STEM

# STEAM Movement Creates Opportunities for Creativity

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When the Every Student Succeeds Act became law in December, advocates of arts education cheered. The federal definition of a well-rounded K-12 education now specifically includes the arts. What's more, an amendment to the act turns STEM into STEAM, adding the A for Art to Science, Technology, Engineering, and Math education and expanding opportunities for integrated programs.

"This means money," says John Maeda, a big thinker in technology, design, and education, and one of the first to advocate for the shift from STEM to STEAM as an economic imperative. "When you have access to capital," he says, "you get to do all kinds of stuff. I hope teachers take the money and find new connections" between the arts and STEM fields.

Maeda's own career has been a case study in cross-disciplinary creativity, taking him from computer science at the MIT Media Lab to the global art world to the presidency of the Rhode Island School of Design (RISD). He currently works in venture capital, advising business start-ups on design.

During his recent visit to Portland, Oregon, to keynote Concordia University's Victor Atiyeh Leadership in Education Award (<http://www.cu-portland.edu/giving/fundraising-events/governor-victor-atiyeh-leadership-education-award>) ceremony, I had a chance to talk with him about the promise of STEAM, the secrets of change leadership, the perils of the Vulcan way, and much more. Here are highlights of our wide-ranging conversation.

**Edutopia:** *You helped launch the STEM to STEAM idea while you were president of RISD (2008-2013). How has that conversation expanded?*

**John Maeda:** I was fortunate to have an unusually positioned voice to get this idea lodged nationally. I stood for something in the technology ecosystem – I was from MIT, so people believed that I understood technology. (He also has a PhD from Tsukuba University's Institute of Art and Design in Japan.)

When I talked with arts educators, I heard that they were losing money to STEM. Art classrooms were being turned into chemistry labs because the funding was there for STEM. For me, it all comes back to diversity. If you have people only focused on technology, you will have amazing technology. If you have people focused only on making art, it may not be implementable. But when you have people going across and around, connecting in uncomfortable spaces, good stuff happens. We need more of that. That's why STEAM makes sense.

**Edutopia:** *Isn't STEM already an intersection of fields?*

**John Maeda:** STEM is field-based diversity. If we're betting the country's future on only STEM, we're saying the Vulcan way is going to prevail. Last time I checked, Captain James Kirk did OK. He brought this emotional intelligence. The arts bring a humanistic creativity that makes science and technology better. You need to counterbalance STEM with art.

**Edutopia:** *What helped shape your own appreciation for diversity as a driver of innovation and creativity?*

**John Maeda:** I grew up in Seattle's Chinatown in the 1970s. My father made tofu. Because of desegregation, we were bused from the south (poor) side to schools in the north (wealthier) side. If that didn't happen, I never would have come into contact with a computer. We have the possibility of diversity in public education, but that doesn't mean we have a diversity of opportunities.

Years later, when I was president of RISD, I wondered why so many of our notable alumni came from a certain era. It turns out they were products of the GI Bill. This was a time in our country's history when a whole generation came back from the war and came to college for free. It was a synchronous moment when diversity was put into the system. We'll never have a moment like that again.

I'm a huge advocate of inclusion. I like to bring in people of every type. If our schools don't mix it up, we won't get that multiplier effect. We need to make space in education not just for makers, but also for talkers. And we need to get them to intersect.

**Edutopia:** *What lessons about educational leadership did you learn during your time at RISD?*

**John Maeda:** A challenge of change management is that people are afraid of changing anything. They will never believe you have good intentions, no matter how good your intentions are. So how do you teach the culture that change is better? I realized that I needed to have impact without leaving my fingerprints on anything. That was my fun design challenge.

Here's an example: When I first saw the Square device that allows for mobile credit card transactions, I asked Jack Dorsey [Square CEO] if we could have some to give away at commencement. I gave out a few hundred. First reaction was skeptical: What are these things? How dare you put these devices everywhere? But a couple years later, a professor in the jewelry department told me they were having a show on campus. "We're having a pop-up shop this year," he told me, "and we're accepting credit cards. We're using Square. Do you know what that is?" I said, "No, what is that?"

So that's the goal of leadership. The philosopher Lao-tzu said that when a good leader is gone, the people will say they did it themselves. As a leader, what can you do that metabolizes? You have to constantly be running experiments, be unafraid, and be savvy.

*Watch Maeda's TED Talk how art, technology, and design inform creative leaders.*

John Maeda

How art, technology and design inform creative leaders

**Edutopia:** *These qualities – agile thinking, fearlessness, flexibility – sound like what some experts describe as being "future ready." How are schools doing at developing these capacities in today's students?*

**John Maeda:** Research from the Kaufman Foundation shows that the majority of entrepreneurs worked in restaurants, ran clubs, or did other things outside the classroom before they launched businesses. Two of the co-founders of Airbnb didn't learn about entrepreneurship in a class at RISD [where they met as students]. They ran the hockey team. Classroom learning is important, but you need to be able to see the whole system.

Now that I'm working in venture capital, I love watching the start-up people. They have changed me. They've taught me how little I know of the world and how it behaves. One start-up entrepreneur told me she is "always hustling." At first, I thought that sounded like a bad thing. Then I realized that I don't know how to do that. I've been in the Ivory Tower for too long. I need to learn how to hustle.

**Edutopia:** *What career advice can you offer today's students?*

**John Maeda:** Even I don't know what I'm supposed to know today, and I'm supposed to be an expert. It used to be that you would figure out what you wanted to become and skill up to become that. If you do that today, by the time you skill up, that job is gone. We need professors and teachers to be in touch with the commercial world. Otherwise, there's a missing piece in the feedback loop.

*To learn more about STEAM education, see Edutopia's resource collection (<http://www.edutopia.org/article/STEAM-resources>) .*

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